

In The Matter Of:

*Yazdani vs.
BMW*

William Vigilante, Jr., Ph.D.

March 15, 2016

*Thomas G. Oakes Associates
535 Route 38 East, Ste. 330
Cherry Tree Corporate Center
Cherry Hill, NJ 08002*

National Toll-Free Scheduling Line: 1.877.625.3777



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5	-vs-	5 WILLIAM J. VIGILANTE, JR., PhD, CPE
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7	and BMW MOTORRAD USA, a Division of BMW OF NORTH AMERICA, LLC	7 EXAMINATION PAGE
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8	BY: KEITH D. HEINOLD, ESQUIRE kdheinold@mdwgc.com 2000 Market Street, Suite 2300 Philadelphia, Pennsylvania 19103 Phone: (215) 575-4552 Representing the Defendants	8
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<p>1 THE COURT REPORTER: Usual 2 stipulations?</p> <p>3 MR. HEINOLD: Yes.</p> <p>4 MR. LEVINE: Yes.</p> <p>5 - - -</p> <p>6 (It is hereby stipulated 7 and agreed by and between counsel for 8 the respective parties that sealing, 9 certification, and filing are waived 10 and that all objections, except as to 11 the form of questions, be reserved 12 until the time of trial.)</p> <p>13 - - -</p> <p>14 WILLIAM J. VIGILANTE, JR., 15 PhD., CPE, after having been first duly 16 sworn, was examined and testified as 17 follows:</p> <p>18 - - -</p> <p>19 EXAMINATION</p> <p>20 - - -</p> <p>21 BY MR. HEINOLD:</p> <p>22 Q. I know you've been deposed.</p> <p>23 You don't need instructions from me about a 24 deposition, do you?</p>		<p>1 Q. Yes, all the work that you've 2 done. Well, all the work that's been done, 3 the report, Vigilante Forensic is you, has 4 been done by you?</p> <p>5 A. That's correct.</p> <p>6 Q. You issued a report in this 7 case?</p> <p>8 A. Yes.</p> <p>9 Q. Is that your only report?</p> <p>10 A. Yes.</p> <p>11 Q. No others?</p> <p>12 A. No others.</p> <p>13 Q. No supplements?</p> <p>14 A. No supplements.</p> <p>15 Q. Is it full and complete to your 16 knowledge right now?</p> <p>17 A. As of the day I wrote the 18 report it is.</p> <p>19 Q. Is there something more that 20 you would add to it?</p> <p>21 A. Well, I've since received a 22 report of the defense expert.</p> <p>23 Q. Kevin Breen?</p> <p>24 A. Yes, Kevin Breen.</p>
<p>1 A. I don't think so.</p> <p>2 Q. Okay. Tell me about your 3 business organization. What's the official 4 name?</p> <p>5 A. I'm doing business as Vigilante 6 Forensic. The LLC is Vigilante Consulting.</p> <p>7 Q. Okay. How big is your 8 organization?</p> <p>9 A. You're looking at it.</p> <p>10 Q. No staff.</p> <p>11 MR. LEVINE: I'm not on his 12 staff.</p> <p>13 MR. HEINOLD: I'm not looking 14 at you.</p> <p>15 THE WITNESS: No staff.</p> <p>16 BY MR. HEINOLD:</p> <p>17 Q. You do everything yourself?</p> <p>18 A. Yes.</p> <p>19 Q. Do you outsource any of it?</p> <p>20 A. No.</p> <p>21 Q. So everything that you've done 22 here for this case is all you?</p> <p>23 A. All the work that I've done, 24 yes.</p>	Page 6	Page 8

<p style="text-align: right;">Page 9</p> <p>1 Q. Human factors?</p> <p>2 A. Yes.</p> <p>3 Q. What do you describe as human</p> <p>4 factors?</p> <p>5 A. Basically human factors are</p> <p>6 ergonomics, which is a synonym, is a science</p> <p>7 that studies how people interact with their</p> <p>8 use of all different types of products,</p> <p>9 machines, systems and environments.</p> <p>10 And what we're interested from</p> <p>11 the human factors side is the person that's</p> <p>12 using the products. We're interested in their</p> <p>13 perceptual abilities, that is their ability to</p> <p>14 see, hear and capture information from the</p> <p>15 environment, how they process that information</p> <p>16 and make decisions. How things such as</p> <p>17 expectancies and prior experiences affect how</p> <p>18 we perceive things and how we make decisions.</p> <p>19 We are also interested in</p> <p>20 people's physical abilities and limitations.</p> <p>21 For example, strengths and weaknesses, ability</p> <p>22 to lift, range of motion, sizings of people,</p> <p>23 human gait or ability to walk, run, so forth.</p> <p>24 And then we as a field in a</p>	<p style="text-align: right;">Page 11</p> <p>1 Plaintiffs, I'm talking about in the</p> <p>2 litigation setting where you are criticizing</p> <p>3 the warning.</p> <p>4 A. Yes, overall my case work tends</p> <p>5 to trend about 60, 65 Plaintiff, Defendant.</p> <p>6 Q. 60 to 65 Plaintiff?</p> <p>7 A. Yes.</p> <p>8 Q. And the rest is Defendant?</p> <p>9 A. 35, 40 Defendant.</p> <p>10 Q. All right. How many of your</p> <p>11 Plaintiff clients are insurance companies?</p> <p>12 A. Subrogation work is maybe 30</p> <p>13 percent of my work.</p> <p>14 Q. Of your total?</p> <p>15 A. Yes. Maybe that's little high.</p> <p>16 Q. How about for Allstate?</p> <p>17 A. Allstate, like total percentage</p> <p>18 of work?</p> <p>19 Q. Allstate Insurance, how much</p> <p>20 work do you do for them?</p> <p>21 A. I don't have a number to give</p> <p>22 you.</p> <p>23 Q. Can you give me an</p> <p>24 approximation?</p>
<p style="text-align: right;">Page 10</p> <p>1 professional's work with engineers, designers</p> <p>2 and architects design products, machines and</p> <p>3 systems that are easy to use, that are</p> <p>4 efficient to use and most importantly are safe</p> <p>5 to use.</p> <p>6 Q. Do you work in any capacity</p> <p>7 other than forensics? Do you know what I mean</p> <p>8 by that?</p> <p>9 A. Sure. I do traditional</p> <p>10 consulting work at times.</p> <p>11 Q. What percentage of your work is</p> <p>12 what you refer to as traditional consulting</p> <p>13 work?</p> <p>14 A. Traditionally it's been a small</p> <p>15 percentage, anywhere from five to 10 percent.</p> <p>16 At some points of the year it's zero percent.</p> <p>17 Q. When you say percentage, are</p> <p>18 you talking about percentage of the income you</p> <p>19 create from it, or are you talking about the</p> <p>20 percentage of projects?</p> <p>21 A. I think they're probably</p> <p>22 positively correlated, so both.</p> <p>23 Q. What percentage of your work do</p> <p>24 you do for Plaintiffs? And when I say</p>	<p style="text-align: right;">Page 12</p> <p>1 A. I don't think I can give you</p> <p>2 that. It would be a wild guess. I don't</p> <p>3 track information based upon insurance</p> <p>4 carrier.</p> <p>5 Q. Okay. Well, how many cases do</p> <p>6 you have open right now?</p> <p>7 A. Open cases, I'm going to say</p> <p>8 around 50.</p> <p>9 Q. And how many of them are</p> <p>10 currently open that you're retained on behalf</p> <p>11 of Allstate?</p> <p>12 A. I don't know. I would say that</p> <p>13 there's at least one other, but I don't know</p> <p>14 how many more if there is more than that.</p> <p>15 Q. How about this office, deLuca</p> <p>16 Levine, how much work do you do for this</p> <p>17 office?</p> <p>18 A. I've done work for them in the</p> <p>19 past, and I'm currently working on other cases</p> <p>20 for them.</p> <p>21 Q. And what percentage of your</p> <p>22 business would you say is from this office or</p> <p>23 iterations of this office?</p> <p>24 A. Yes, maybe less than five</p>

<p>1 percent.</p> <p>2 Q. How many do you have currently 3 open?</p> <p>4 A. I have maybe five, six cases 5 open.</p> <p>6 Q. Are any of those on-product 7 warning cases?</p> <p>8 A. Yes.</p> <p>9 Q. How many?</p> <p>10 A. All of them.</p> <p>11 Q. On product?</p> <p>12 A. Yes.</p> <p>13 Q. In each of those cases are you 14 advocating for an on-product warning?</p> <p>15 A. In each of those cases I'm 16 advocating to my opinion.</p> <p>17 Q. Is your opinion that there 18 should be an on-product warning?</p> <p>19 A. It depends on the case.</p> <p>20 Q. So the answer to my question 21 would be no, not each of the cases you're 22 advocating for an on-product warning?</p> <p>23 A. It depends on the case. I 24 don't recall the cases at the moment. So some</p>	<p>Page 13</p> <p>1 of those cases, or are you involved in a case 2 where you haven't yet issued a report?</p> <p>3 A. I think most of them I have 4 issued a report. There may be one or two that 5 I haven't.</p> <p>6 Q. Any of them involve 7 motorcycles?</p> <p>8 A. No.</p> <p>9 Q. Have you ever had a motorcycle 10 case before?</p> <p>11 A. In what way? I've been 12 involved in motorcycle cases in the past where 13 they've been involved in collisions, whether 14 they be multi vehicle or single vehicle, 15 whether they be a dirt bike type vehicle or a 16 road vehicle. So I've been involved in 17 motorcycle cases in the past.</p> <p>18 Q. Well, how about motorcycle 19 cases where the issue is warning?</p> <p>20 A. I don't recall any offhand.</p> <p>21 Q. Do you own a motorcycle?</p> <p>22 A. Yes.</p> <p>23 Q. What do you own?</p> <p>24 A. I own a Harley-Davidson Softail</p>
<p>1 of them may be on-product. Some of them may 2 not be. It may not be relevant.</p> <p>3 Q. All right. I'm lost, so let me 4 start over.</p> <p>5 A. Sure.</p> <p>6 Q. You said you have five or six 7 cases currently with this office?</p> <p>8 A. Yes, five or six additional 9 cases.</p> <p>10 Q. Additional cases. And I asked 11 how many of those involve the issue of 12 on-product warning and I thought you said all 13 of them?</p> <p>14 A. Yes, maybe I misunderstood the 15 question. They're all warnings cases.</p> <p>16 Q. Yes.</p> <p>17 A. I don't recall if all of them, 18 in my opinions, I've come to the opinion that 19 they needed an on-product warning. Some of 20 them may have been that the on-product warning 21 provided was not effective, and some of them 22 may not have involved an on-product warning at 23 all.</p> <p>24 Q. Have you issued reports in each</p>	<p>Page 14</p> <p>1 Deluxe 2007.</p> <p>2 Q. Is that air-cooled?</p> <p>3 A. It is air-cooled.</p> <p>4 Q. Does it have any warning 5 stickers affixed to it?</p> <p>6 A. I don't think that there's any 7 warning stickers on the exterior of the 8 surfaces. There may be some under the seat, 9 but I don't recall offhand.</p> <p>10 Q. Okay. If you don't recall, then 11 this is probably an unfair question, but what 12 would the stickers under the seat say?</p> <p>13 A. My guess, if I have to guess, 14 is that they deal with the electrical system.</p> <p>15 Q. Okay. You're not aware of any 16 other stickers?</p> <p>17 A. Nope.</p> <p>18 Q. Is this an air-cooled engine?</p> <p>19 A. Yes.</p> <p>20 Q. Do you idle it at a standstill?</p> <p>21 A. Yes, I do.</p> <p>22 Q. Okay. For how long?</p> <p>23 A. I've been known to idle it for 24 up to 30 minutes sitting in my garage warming</p>

<p>1 up, the same thing Mr. Yazdani was doing on 2 the day of the incident.</p> <p>3 Q. How often?</p> <p>4 A. Every winter, because I do the 5 same thing that Mr. Yazdani did. I would 6 start the bike every couple weeks and I would 7 let it run at least 10 minutes, sometimes 20, 8 sometimes up to 30.</p> <p>9 Q. Would you do that if there was 10 an item in the manual that said don't do that 11 because it might catch a fire?</p> <p>12 A. It doesn't say that in my 13 manual. In fact, it tells me --</p> <p>14 Q. I said if it did.</p> <p>15 A. I'm sorry, in my manual it 16 tells me that you're supposed to let it idle 17 and warm up. If there was a warning in the 18 manual, I would have to see it and figure out 19 why it's there, determine what the 20 consequences are.</p> <p>21 Q. The warning in your Softail 22 manual says what about warming it up?</p> <p>23 A. There is no warning against 24 warming it up. It's an instruction that says</p>	<p>Page 17</p> <p>1 of them idle for multiple minutes in the 2 winter because I don't winterize the bike 3 because I like to ride them through the winter 4 months when it gets a little bit warmer. 5 So I will start them every 6 couple weeks, this has been my practice for a 7 number of years, and let them idle. How long 8 I let them idle, I let them at least idle 10 9 minutes and sometimes I let them go longer, 10 depending upon what I'm doing.</p> <p>11 Q. You let them go longer by 12 choice or you let them go longer because you 13 were distracted and didn't get back to it 14 after 10 minutes?</p> <p>15 A. Well, I don't think it's 16 necessarily that I was distracted and didn't 17 get back to it. It's that I didn't have a 18 concern to let it go a little bit longer if I 19 was involved in something else.</p> <p>20 Q. Was it your intent to leave it 21 run for 30 minutes, or did you become involved 22 in something else and not think about it?</p> <p>23 A. Yes, I became involved in 24 something else and didn't think about it. But</p>
<p>1 to leave the bike idle and warm up.</p> <p>2 Q. Does it say how long?</p> <p>3 A. It says: Starting the Engine, 4 Caution: The engine should be allowed to run 5 slowly for 15 to 30 seconds. This will allow 6 the engine to warm up and let oil reach all 7 surfaces needing lubrication. Failure to 8 comply can result in engine damage.</p> <p>9 Q. That is 15 to 30 seconds?</p> <p>10 A. Yes.</p> <p>11 Q. When you idled your 12 Harley-Davidson -- do you still own it?</p> <p>13 A. Yes.</p> <p>14 Q. When you do that, how did you 15 determine what was the safe period of time to 16 do it?</p> <p>17 A. First of all, I didn't know 18 that there was an unsafe limit on how long to 19 leave it idle at a standstill. I'm not sure 20 that there is an unsafe time period to leave 21 it idle at a standstill. So obviously that 22 doesn't apply to my bike.</p> <p>23 And this is the third 24 Harley-Davidson I've owned, and I've let all</p>	<p>Page 18</p> <p>1 it wasn't my intent not to let it run for 30 2 minutes.</p> <p>3 Q. What were the other two 4 Harley-Davidson motorcycles that you owned?</p> <p>5 A. I owned a 2006 Softail Deuce 6 and a maybe 2004 Sportster 880.</p> <p>7 Q. Do you only own the one now?</p> <p>8 A. Yes.</p> <p>9 Q. You only one at a time?</p> <p>10 A. Yes, that's all my wife will 11 allow.</p> <p>12 Q. Understood. 2004, what was it?</p> <p>13 A. Sportster.</p> <p>14 Q. And you said you did the same 15 in terms of starting them up?</p> <p>16 A. Yes.</p> <p>17 Q. All right. When you obtained 18 each of these motorcycles, were they new?</p> <p>19 A. They were all used.</p> <p>20 Q. Did you get a manual with them?</p> <p>21 A. I don't think I got a manual 22 with any of them.</p> <p>23 Q. Did you secure a manual?</p> <p>24 A. I did for the '07 Deluxe. I</p>

<p>1 don't recall if I did for '06 Deuce.</p> <p>2 Q. What about the '04 Sportster?</p> <p>3 A. I don't recall.</p> <p>4 Q. Why did you get a manual for</p> <p>5 the '07 Deluxe?</p> <p>6 A. Well, typically I do my own</p> <p>7 work, so I purchased the manual and the</p> <p>8 service guide so if I have to add something,</p> <p>9 take something off, do some work I have the</p> <p>10 material I need to understand how to do so.</p> <p>11 Q. When you say you do your own</p> <p>12 work, are you talking about doing your own</p> <p>13 maintenance?</p> <p>14 A. Sure. Then I do my own</p> <p>15 customization.</p> <p>16 Q. What kind of customization work</p> <p>17 do you do?</p> <p>18 A. Well, for example, on the</p> <p>19 Deluxe I replaced the handlebars, the risers</p> <p>20 and the controllers up front, replaced the</p> <p>21 cables, clutch cable, brake cable, upgraded</p> <p>22 them to stainless. So different things like</p> <p>23 that.</p> <p>24 Q. How long have you been riding</p>	<p>Page 21</p> <p>1 A. Maybe when I was 12, 13.</p> <p>2 Q. And had it for how long?</p> <p>3 A. I had it until about 17, 18.</p> <p>4 Q. And then you had nothing until</p> <p>5 you bought the Sportster?</p> <p>6 A. That's right.</p> <p>7 Q. How old are you now?</p> <p>8 A. Forty four.</p> <p>9 Q. Do you consider yourself an</p> <p>10 expert in motorcycles?</p> <p>11 A. I consider myself maybe an</p> <p>12 advanced motorcyclist. I'm not sure that</p> <p>13 expert would be the correct term.</p> <p>14 Q. So the answer to my question is</p> <p>15 no?</p> <p>16 A. The answer to your question is</p> <p>17 what I gave you.</p> <p>18 Q. Can you answer that question</p> <p>19 yes or no, are you an expert -- do you</p> <p>20 consider yourself an expert in motorcycles?</p> <p>21 A. I would consider myself an</p> <p>22 advanced rider.</p> <p>23 Q. Okay. Well, we're in a court</p> <p>24 of law and people are going to be declared</p>
<p>1 and working on motorcycles?</p> <p>2 A. I started riding when I was</p> <p>3 preteen, dirt bikes at the time, and then</p> <p>4 there was a lapse before I bought my first</p> <p>5 Harley, when I could afford to buy my first</p> <p>6 Harley.</p> <p>7 Q. How long have you owned bikes?</p> <p>8 A. Well, I owned them since I was</p> <p>9 preteen.</p> <p>10 Q. How long have you owned</p> <p>11 Harleys? When did you buy the 2004?</p> <p>12 A. Where or when?</p> <p>13 Q. When, what year?</p> <p>14 A. I'm going to say maybe 2007,</p> <p>15 2008.</p> <p>16 Q. Did you own bikes before that?</p> <p>17 A. I did own bikes before that.</p> <p>18 Q. What did you own?</p> <p>19 A. I owned dirt bikes.</p> <p>20 Q. What type?</p> <p>21 A. I had a Yamaha. That's it.</p> <p>22 Q. Just one?</p> <p>23 A. Yes.</p> <p>24 Q. And when did you buy that?</p>	<p>Page 22</p> <p>1 experts or not. Are you an expert in</p> <p>2 motorcycles for purposes of your opinion here</p> <p>3 today?</p> <p>4 A. It depends on the question as</p> <p>5 to whether or not I'm an expert in that area</p> <p>6 as it relates to motorcycling. So if we're</p> <p>7 talking about rider behavior, I would consider</p> <p>8 myself, with the experience, knowledge,</p> <p>9 education and training, to be an expert in</p> <p>10 that area.</p> <p>11 If you're talking about whether</p> <p>12 or not I can whip a bike around the racetrack</p> <p>13 at 150 miles an hour, I would consider myself</p> <p>14 not an expert.</p> <p>15 Q. How about in design?</p> <p>16 A. It depends on the issue.</p> <p>17 Q. Outside of the warning issue?</p> <p>18 A. It depends on the issue.</p> <p>19 Q. What issues do you consider</p> <p>20 yourself an expert in design of the</p> <p>21 motorcycle?</p> <p>22 A. If there's issues related to</p> <p>23 controls and displays, I consider myself an</p> <p>24 expert in the design for a motorcycle or any</p>

<p>1 other product.</p> <p>2 Q. All right. How about other 3 than controls and displays?</p> <p>4 A. It depends on the issue.</p> <p>5 Q. What issues do you consider 6 yourself an expert in motorcycles other than 7 design and displays generally?</p> <p>8 A. Controls, displays, 9 instructional information, warnings. It could 10 involve training. It depends on the question.</p> <p>11 Q. How about an expert in 12 mechanical operations of a motorcycle, any 13 design and the way it operates?</p> <p>14 A. I won't be offering any 15 opinions with regard to the mechanical design 16 of the motorcycle unless I'm asked.</p> <p>17 Q. Are you an expert in the issues 18 of mechanical design of motorcycles?</p> <p>19 A. Again, it depends on the 20 question. If I'm asked the question, I'll be 21 happy to answer. My opinions, as I plan on 22 giving them, are set forth in my report which 23 deal with failure to provide adequate warning.</p> <p>24 Q. Are you an expert on how the</p>	<p>Page 25</p> <p>1 myself an expert in the design. I never 2 designed an air-cooled engine or the oil 3 system for an air-cooled engine. But there 4 are aspects of it that I may be or have expert 5 insight into, including potentially the 6 problems with the location of the oil sight 7 glass being on the left side of the crane case 8 as opposed to the right side and the potential 9 problems it creates based upon BMW's 10 substandard design.</p> <p>11 Q. What is your expertise in 12 motorcycle design that you feel permits you to 13 offer that type of opinion?</p> <p>14 A. Well, first of all, I don't 15 plan on offering it unless I'm asked. But I'm 16 not going to cut myself off from being able to 17 answer it if you do, in fact, ask it.</p> <p>18 So, again, my opinions as I 19 plan to give them are laid out in my report. 20 If you want to go into these other areas, I 21 want to reserve my ability to answer them. So 22 it depends upon the question.</p> <p>23 MR. LEVINE: May I interject 24 for just a moment. As you noticed, I haven't</p>
<p>1 oil system of an air-cooled motorcycle should 2 be designed?</p> <p>3 A. I never designed the --</p> <p>4 Q. You can answer that yes or no.</p> <p>5 Can you not answer that question yes or no?</p> <p>6 A. Well, first of all, I can 7 answer it if you allow me to finish and not 8 interrupt me. Second, I'll answer the way I 9 feel best. If that works for you we can 10 continue. Otherwise, we can stop now and come 11 back at a later time.</p> <p>12 Q. No, we're not going to stop.</p> <p>13 I'm going to ask the question, you're going to 14 answer the question. If I don't feel you 15 answered my question, I'll ask you again. And 16 if I don't feel you answered it again, I'll 17 ask it again. If we get to the point where 18 you don't answer my questions, perhaps then 19 we'll stop and we'll come back at a later 20 time.</p> <p>21 So, do you consider yourself an 22 expert in the design of the oil system in an 23 air-cooled motorcycle?</p> <p>24 A. Yeah, I would not consider</p>	<p>Page 26</p> <p>1 been very obstructive. It is my understanding 2 that Mr. Vigilante's testimony, the scope of 3 will be within the four corners of his report, 4 although, they may be expanded by some 5 responses to your experts' report. While I do 6 appreciate you're trying to understand the 7 full scopes of his expertise, we are only 8 offering him as an expert within the four 9 corners of his report.</p> <p>10 BY MR. HEINOLD:</p> <p>11 Q. Have you ever written any 12 articles on motorcycle warnings?</p> <p>13 A. Not specifically to motorcycle 14 warnings.</p> <p>15 Q. Have you done any research on 16 motorcycle warnings?</p> <p>17 A. Not specific for motorcycle 18 warnings, but I have done a whole lot of 19 research on the factors that affect the 20 adequacy of product warnings, and I've done 21 research on the perceptions of motorcycle 22 riders for different issues and topics.</p> <p>23 Q. Operational issues?</p> <p>24 A. Yes.</p>

<p>1 Q. Any presentations on motorcycle 2 warnings?</p> <p>3 A. Not specifically on motorcycle 4 warnings.</p> <p>5 Q. Okay. Any articles or research 6 or presentations on on-product motorcycle 7 warnings?</p> <p>8 A. Not related specifically to 9 on-product warnings, but generally related to 10 motorcycle on-product warnings, yes.</p> <p>11 Q. Generally, how?</p> <p>12 A. Because they deal with product 13 warnings for all, not specifically a 14 motorcycle or specifically another widget, but 15 that apply to all products.</p> <p>16 Q. Have you written any articles 17 on on-product labels?</p> <p>18 A. Yes.</p> <p>19 Q. What have you written on 20 on-product warnings? Is it in your C.V.?</p> <p>21 A. Yes.</p> <p>22 Q. Can you identify which ones are 23 related to on-product warnings?</p> <p>24 A. Sure. Do you have a version</p>	<p>Page 29</p> <p>1 A. Generally, my conclusion is 2 that consumers have a different expectation or 3 understanding of that phrase as opposed to the 4 intention of the manufacturer.</p> <p>5 Q. Meaning what?</p> <p>6 A. Meaning that they believe the 7 phrase means something different than what the 8 manufacturer intended.</p> <p>9 Q. What do you believe they mean?</p> <p>10 A. Well, the manufacturer often 11 means it or intends it to mean don't leave the 12 product out of your site, whereas the consumer 13 believes that as long as the product is in 14 what they believe to be a safe state, they can 15 go about their daily lives coming back to 16 check on it on a periodic basis.</p> <p>17 Particularly, not aware that 18 there's a potential fire hazard or other 19 hazard associated with the product that it can 20 occur at any moment without forewarning or 21 advanced forewarning.</p> <p>22 Q. You mean like don't leave this 23 because it might catch on fire?</p> <p>24 A. Sure.</p>
<p>1 date on there just so we're talking --</p> <p>2 Q. I have the version date that 3 you gave me, November 1, 2015.</p> <p>4 A. Okay.</p> <p>5 Q. Is there an updated version?</p> <p>6 A. There looks like that's the 7 most updated version. So, Page 5, the first 8 one is a Joyce, Byrd, Vigilante, Wogalter 9 article dealing with labeling and format 10 preferences for on-product warnings and 11 labels.</p> <p>12 Q. Page 5, the one that says 13 Over-the-counter drug labeling?</p> <p>14 A. Correct. The second one, 15 Consumers' interpretation of the statement: 16 "Do not leave (insert product here) 17 unattended." That is both on product and in 18 manual.</p> <p>19 Q. What was your conclusion in 20 that article?</p> <p>21 A. I'm sorry?</p> <p>22 A. The Consumers' interpretation 23 of the statement, "Do not leave blank 24 unattended", what was your conclusion?</p>	<p>Page 30</p> <p>1 Q. And that would send a different 2 message than just don't leave this unattended?</p> <p>3 A. Well, I think you're maybe 4 minimizing the issue. It's better off to read 5 the paper. I don't remember everything that's 6 in the paper. I've given you the general --</p> <p>7 Q. Do you still have these papers?</p> <p>8 A. I'm sure I do.</p> <p>9 Q. If I requested them, you would 10 be able to find them and produce them?</p> <p>11 A. I might. You can also obtain 12 them. These are all publicly available.</p> <p>13 Do you want me to continue?</p> <p>14 Q. Sure.</p> <p>15 A. The next one is the top of Page 16 6, Nemire and Vigilante. Page 7, the first 17 one related to on-product is Vigilante 18 Wogalter 1999.</p> <p>19 MR. LEVINE: Can you just spell 20 Wogalter for her?</p> <p>21 THE WITNESS: W-O-G-A-L-T-E-R.</p> <p>22 The second one also deals with on-product 23 labeling, Vigilante, Wogalter 1998.</p> <p>24 BY MR. HEINOLD:</p>

<p>1 Q. Did you study under him?</p> <p>2 A. Mike Wogalter is my major</p> <p>3 advisor. Wogalter, Conzola and Vigilante,</p> <p>4 2006 is applicable to the design of the text</p> <p>5 in on-product warnings. There's a similar</p> <p>6 publication under that, Wogalter, Vigilante,</p> <p>7 1999.</p> <p>8 Next page, Wogalter, Vigilante,</p> <p>9 2006 is a book chapter related to the</p> <p>10 attention switch and maintenance of warnings</p> <p>11 both on product and in manual. Wogalter,</p> <p>12 Vigilante 2010 deals with formatting of on</p> <p>13 product labels.</p> <p>14 Q. Some of these were written when</p> <p>15 you were a student at NC State?</p> <p>16 A. Some of them were done while I</p> <p>17 was a graduate student at North Carolina State</p> <p>18 University.</p> <p>19 Q. I also saw in your C.V. that</p> <p>20 you listed the Motorcycle Safety Foundation.</p> <p>21 What is that?</p> <p>22 A. The Motorcycle Safety</p> <p>23 Foundation is a nonprofit organization in this</p> <p>24 country that looks to improve the safety of</p>	<p>Page 33</p> <p>1 A. Sure.</p> <p>2 Q. Are they operational classes?</p> <p>3 A. Well, again, they deal with</p> <p>4 basic rider course. It deals with everything</p> <p>5 from personal protective equipment to pretrip</p> <p>6 inspections, the correct purchasing of the</p> <p>7 equipment to issues related while you're</p> <p>8 riding or traveling.</p> <p>9 Q. How many classes have you</p> <p>10 taken?</p> <p>11 A. I've taken two.</p> <p>12 Q. And when did you take those?</p> <p>13 A. The basic rider course was</p> <p>14 probably 2005. The off-highway motorcycle</p> <p>15 course maybe 2006, 2007. Or I'm sorry, the</p> <p>16 basic rider course was 2006, 2007. The</p> <p>17 off-highway motorcycle course was maybe a year</p> <p>18 or two before that.</p> <p>19 Q. Anything about warnings in that</p> <p>20 organization?</p> <p>21 A. How do you mean?</p> <p>22 Q. Well, anything taught about</p> <p>23 warnings?</p> <p>24 A. Well, I'm sure they give plenty</p>	
<p>1 motorcyclist by offer of training and</p> <p>2 education. Many states, such as Pennsylvania,</p> <p>3 it's Motorcyclist Safety Foundation classes</p> <p>4 are offered free to licensed motorcyclists in</p> <p>5 those looking to be a licensed motorcyclist.</p> <p>6 Q. What are the important issues</p> <p>7 of safety that they're dealing with, mostly</p> <p>8 operation?</p> <p>9 A. Mostly operation, and some of</p> <p>10 them deal with, for example, precheck</p> <p>11 inspections of the motorcycle. But most of</p> <p>12 the emphasis is on road traveling safety.</p> <p>13 Q. Have you published anything in</p> <p>14 your work in that organization?</p> <p>15 A. I have not.</p> <p>16 Q. Do you serve -- in what</p> <p>17 capacity do you serve in the organization?</p> <p>18 A. I don't serve in any capacity.</p> <p>19 I've taken some of their education that they</p> <p>20 offer.</p> <p>21 Q. You're a member?</p> <p>22 A. I'm not a member.</p> <p>23 Q. You're not a member. There's</p> <p>24 just classes that you take?</p>	<p>Page 34</p> <p>1 of warnings.</p> <p>2 Q. You said you took two classes.</p> <p>3 Anything about warnings in those two classes?</p> <p>4 A. I don't understand what you're</p> <p>5 asking me.</p> <p>6 Q. You're not a member of the</p> <p>7 organization?</p> <p>8 A. That's correct.</p> <p>9 Q. You don't serve it in any</p> <p>10 capacity?</p> <p>11 A. I don't serve it in any</p> <p>12 capacity, that I'm aware of.</p> <p>13 Q. You don't hold a position where</p> <p>14 you're an officer or a director or anything of</p> <p>15 that nature?</p> <p>16 A. No, I do not.</p> <p>17 Q. Have you taught classes there?</p> <p>18 A. No, I have not.</p> <p>19 Q. So you've taken two classes?</p> <p>20 A. That's correct.</p> <p>21 Q. One was basic rider class and</p> <p>22 one was an off-road riding class?</p> <p>23 A. That's correct.</p> <p>24 Q. And neither of those two</p>	<p>Page 36</p>

<p>1 classes, did they address the issue of 2 warnings, motorcycle warning, manual or on 3 product?</p> <p>4 A. Are you asking me whether they 5 addressed the design and development of 6 warnings for motorcycles in the class, or are 7 you asking whether or not they provided 8 warnings related to the operation or ownership 9 of motorcycles in those classes?</p> <p>10 Q. Did they teach you about 11 warnings?</p> <p>12 A. Yes, I'm going to say yes.</p> <p>13 Q. What did they teach you?</p> <p>14 A. That you should look for 15 warnings and follow the warnings that they 16 provide during the classes and during the 17 training.</p> <p>18 Q. Were they classes -- they did 19 provide warnings during classes and training?</p> <p>20 A. Sure.</p> <p>21 Q. Were they operational in terms 22 of riding warnings?</p> <p>23 A. Sure. They would give you 24 warnings. For example, you should wear a</p>	<p>Page 37</p> <p>1 Incorporated, et al. 2 Q. This is 2013? 3 A. Yes. And then 7/2014, Ramon 4 Ernesto Ortega vs. Hector Enrique Lopez, 5 Osceola Farms. That's a motor scooter, not a 6 motorcycle. 7 Q. Which one was that? I'm 8 sorry. 9 A. July 2014. 10 Q. Vandenberg vs. Brunswick? 11 A. I'm sorry, that's actually a 12 typo. That should be 2015. 13 Q. All right. So July 2014 as it 14 appears at Page 4 at the top, Vandenberg vs. 15 Brunswick? 16 A. On my Page 5 it's July 2014, 17 out of order. It goes from June -- 18 Q. Oh, I see, okay. 19 A. Sorry about that. 20 Q. No. I was looking at the top 21 of Page 4, July of 2014, Vandenberg vs. 22 Brunswick. 23 A. No, that's not it. 24 Q. In that case, who -- in</p>
<p>1 helmet. You should wear eye protection. You 2 should practice the search, evaluate, execute 3 strategy when riding to potentially avoid 4 collisions. So I'm sure that there was 5 multiple warnings that they gave through the 6 classes and trainings.</p> <p>7 Q. Any warnings that you would 8 consider relevant to your opinions in this 9 case?</p> <p>10 A. No.</p> <p>11 Q. I have your Testimony List. Is 12 that up to date?</p> <p>13 A. Do you have a date on it?</p> <p>14 Q. 1/1/16.</p> <p>15 A. It's been updated since then.</p> <p>16 Q. Okay. Have any of these -- any 17 of the cases on the Testimony List involved 18 motorcycles?</p> <p>19 A. If you give me a moment, I'll 20 be happy to check.</p> <p>21 A. Okay. Two of them.</p> <p>22 Q. Okay. Which ones?</p> <p>23 A. August 2013, David Vititoe vs. 24 Rocky Mountain Pavement Maintenance,</p>	<p>Page 38</p> <p>1 Vandenberg vs. Brunswick, who retained you? 2 A. I was retained on behalf of the 3 Plaintiff. 4 Q. What was the issue in that 5 case? 6 A. That had to do with fall 7 protection on the upper deck of a pleasure 8 yacht. 9 Q. Is that case still pending? 10 A. That -- 11 MR. LEVINE: Experts are often 12 the last to know. 13 MR. HEINOLD: Only if their 14 bill has not been paid. 15 THE WITNESS: That one went to 16 trial in June of last year. 17 BY MR. HEINOLD: 18 Q. What was the result? 19 A. I don't recall. And I don't 20 know if the bill was paid. 21 Q. So Ortega vs. Lopez and Osceola 22 Farms, is that July 2015 or '16? 23 A. 2015. 24 Q. Okay. And that was also a</p>

<p>1 motorcycle case?</p> <p>2 A. That was a motor scooter.</p> <p>3 Q. Okay. What was the issue in</p> <p>4 that case?</p> <p>5 A. That was a truck versus motor</p> <p>6 scooter collision at a T-intersection, and it</p> <p>7 had to do with the ability of the operators to</p> <p>8 see and avoid each other.</p> <p>9 Q. How about the Vivitoe case?</p> <p>10 A. Vivitoe was a Harley-Davidson</p> <p>11 Softail Deluxe that ran into the back of a</p> <p>12 trailer that was attached to a truck that was</p> <p>13 stopped on a four-lane roadway at a green</p> <p>14 traffic light at night.</p> <p>15 Q. Who retained you in this case?</p> <p>16 A. I was retained on behalf of Mr.</p> <p>17 Vivitoe.</p> <p>18 Q. Did that go to trial?</p> <p>19 A. Yes.</p> <p>20 Q. What was the result?</p> <p>21 A. They found for David Vivitoe,</p> <p>22 although the damages were less than Plaintiff</p> <p>23 I think was hoping for.</p> <p>24 Q. Which sometimes occurs.</p>	<p>Page 41</p> <p>1 and his turn signal. I just don't recall if</p> <p>2 that was an issue.</p> <p>3 Q. Okay. Any of these involve the</p> <p>4 assessment of the manufacturer's warnings,</p> <p>5 whether in manuals or on product?</p> <p>6 A. No.</p> <p>7 Q. And I'm not limiting that</p> <p>8 question to motorcycles.</p> <p>9 A. I don't understand.</p> <p>10 Q. The first questions I asked</p> <p>11 about motorcycles.</p> <p>12 A. You're talking about these two</p> <p>13 specific cases?</p> <p>14 Q. No. I'm talking about your</p> <p>15 list. On your list, any of these cases --</p> <p>16 your testimony in any of these cases concern</p> <p>17 manufacturer's -- the quality of</p> <p>18 effectiveness, et cetera, of the</p> <p>19 manufacturer's warning, whether in a manual or</p> <p>20 on product?</p> <p>21 A. Yes.</p> <p>22 Q. Can you tell me which ones?</p> <p>23 A. Starting on my copy it's the</p> <p>24 first one, 2012, that's the Power vs.</p>
<p>1 A. He wasn't wearing a helmet.</p> <p>2 Q. But neither of those dealt with</p> <p>3 warnings -- did either of those deal with</p> <p>4 warnings?</p> <p>5 A. Well, they didn't deal with</p> <p>6 product warnings, per se. The Vivitoe issue</p> <p>7 was an issue of the failure of the lights on</p> <p>8 the back of the trailer to provide adequate</p> <p>9 warning as to the stopped state of the tractor</p> <p>10 trailer.</p> <p>11 Q. Did any of this testimony deal</p> <p>12 with motorcycle warnings?</p> <p>13 A. Warnings on the motorcycle</p> <p>14 itself?</p> <p>15 Q. Yes, or related to the</p> <p>16 motorcycle?</p> <p>17 A. Nothing in the Vivitoe matter.</p> <p>18 The warnings related to the signals on the</p> <p>19 back of the trailer of the truck.</p> <p>20 The Ortega matter, I don't</p> <p>21 recall if the issue was -- I don't recall if</p> <p>22 the -- I don't recall if the issue was</p> <p>23 related -- part of the issue was related to</p> <p>24 whether or not Ortega was using his headlight</p>	<p>Page 42</p> <p>1 Electrolux North America. The next one is a</p> <p>2 product warnings case.</p> <p>3 Q. Tell me about Power, what was</p> <p>4 the issue in Power?</p> <p>5 A. It was the failure to provide</p> <p>6 adequate warning on a clothes dryer regarding</p> <p>7 a lint fire hazard associated with the design</p> <p>8 of the dryer.</p> <p>9 Q. And you were retained by whom?</p> <p>10 A. Looks like American Family</p> <p>11 Mutual Insurance Company.</p> <p>12 Q. What was your opinion?</p> <p>13 A. All of them?</p> <p>14 Q. Give me the thumbnail.</p> <p>15 A. That the manufacturer failed to</p> <p>16 provide adequate warning.</p> <p>17 Q. And what was your solution?</p> <p>18 A. The solution was to provide</p> <p>19 adequate warning.</p> <p>20 Q. In what method?</p> <p>21 A. In had to do both with the</p> <p>22 design of the product and the supplementation</p> <p>23 of that design with an on-product warning or</p> <p>24 the failure to provide a design solution</p>

<p>1 adding a warning to the product.</p> <p>2 Q. Did that go to trial or is that</p> <p>3 still active?</p> <p>4 A. That one settled.</p> <p>5 Q. Okay. What was the next one?</p> <p>6 A. Next one is Royal Indemnity</p> <p>7 Company vs. Crane Company, et al.</p> <p>8 Q. Okay.</p> <p>9 A. The next one is --</p> <p>10 Q. Tell me about it.</p> <p>11 A. That one was a product warning</p> <p>12 case. I think that was fiber reinforced</p> <p>13 plastic panels that were installed in an oven</p> <p>14 room of a manufacturer of chicken nuggets, I</p> <p>15 believe, food processor.</p> <p>16 Q. And you were retained on behalf</p> <p>17 of whom?</p> <p>18 A. One of the insurance companies</p> <p>19 for the company, the manufacturer or -- not</p> <p>20 the manufacturer of the product, the</p> <p>21 manufacturer of the chicken processor is</p> <p>22 probably a good way to put it.</p> <p>23 Q. Is your conclusion that</p> <p>24 whatever warning was at issue was satisfactory</p>	Page 45	<p>1 looking at product warnings or are we looking</p> <p>2 for warnings in general?</p> <p>3 Q. Looking for product warnings.</p> <p>4 A. Okay. I'm counting 15. I</p> <p>5 would say 15.</p> <p>6 Q. Can you identify which ones?</p> <p>7 A. Sure. So we did the two. The</p> <p>8 next one is 5/12 Jessica Durkin v. Paccar,</p> <p>9 Incorporated. The next one is also --</p> <p>10 Q. Can you tell me what the</p> <p>11 product was?</p> <p>12 A. That was a bulkhead, aluminum</p> <p>13 bulkhead, I believe it was an aluminum</p> <p>14 bulkhead on a flatbed trailer.</p> <p>15 Q. Okay.</p> <p>16 A. The next one is also in May of</p> <p>17 2012, Kleiman vs. Jay Peak, Incorporated.</p> <p>18 Q. What was the product?</p> <p>19 A. That was a gas fireplace.</p> <p>20 Q. If I say generically, on the</p> <p>21 Durkin case, you were retained on the side of</p> <p>22 the Plaintiff?</p> <p>23 A. Yes, I was retained on behalf</p> <p>24 of the deceased Plaintiff, estate of.</p>	Page 47
<p>1 or unsatisfactory?</p> <p>2 A. I'm going to say they didn't</p> <p>3 provide warning as to the fire hazard</p> <p>4 associated with the use of the panels they</p> <p>5 were selling with it. That was part of the</p> <p>6 problem.</p> <p>7 Q. What was the next case?</p> <p>8 A. Jessica Durkin vs. Paccar,</p> <p>9 Incorporated, et al.</p> <p>10 Q. Are all of these -- would you</p> <p>11 say all of these are warnings cases for</p> <p>12 products?</p> <p>13 A. No.</p> <p>14 Q. Okay, go ahead. How many would</p> <p>15 you say there are?</p> <p>16 A. I can count them.</p> <p>17 Q. Go ahead, why don't you count</p> <p>18 them.</p> <p>19 A. Do you want me to start from</p> <p>20 the top or do you want me to count the ones we</p> <p>21 already talked about?</p> <p>22 Q. We got two. You can begin at</p> <p>23 three.</p> <p>24 A. Now, just to clarify, are we</p>	Page 46	<p>1 Q. The Kleiman case on behalf of</p> <p>2 the Plaintiff?</p> <p>3 A. Retained on behalf of the</p> <p>4 Plaintiff's parents.</p> <p>5 Q. Okay. What's next?</p> <p>6 A. 10/2012, Mitchell Robinson, et</p> <p>7 al. vs. YJ USA Corporation doing business as</p> <p>8 JumpKing.</p> <p>9 Q. Okay. What was the product?</p> <p>10 A. That was a trampoline.</p> <p>11 Q. And what was your -- were you</p> <p>12 retained on behalf of the Plaintiff?</p> <p>13 A. Yes.</p> <p>14 Q. Okay. Next?</p> <p>15 A. January 2013, it looks like</p> <p>16 John and Emily McGrath vs. Rust-Oleum</p> <p>17 Corporation.</p> <p>18 Q. Product?</p> <p>19 A. Yes.</p> <p>20 Q. What type?</p> <p>21 A. That I think that was a stain.</p> <p>22 Q. Were you retained on behalf of</p> <p>23 the Plaintiff?</p> <p>24 A. Yes.</p>	Page 48

<p style="text-align: right;">Page 49</p> <p>1 Q. Next, please.</p> <p>2 A. Jacqueline Down and IDA Wescott</p> <p>3 vs. USC.</p> <p>4 Q. What was the product?</p> <p>5 A. That was a pole vault mat.</p> <p>6 Q. Okay. And were you retained</p> <p>7 behalf of Plaintiffs?</p> <p>8 A. Yes.</p> <p>9 Q. Okay. What is next?</p> <p>10 A. I think, I'm not a hundred</p> <p>11 percent sure, but I think Megan Smith vs. In</p> <p>12 Gear Fashions was a warnings case.</p> <p>13 Q. What was the product?</p> <p>14 A. It would be clothing. I don't</p> <p>15 remember exactly what article of clothing.</p> <p>16 Q. Were you retained on behalf of</p> <p>17 the Plaintiff?</p> <p>18 A. I'm going to guess yes.</p> <p>19 Q. What would the next one be?</p> <p>20 A. February 2004, Jesus Flores v.</p> <p>21 Alexander Andrew, doing business as Fall</p> <p>22 Tech.</p> <p>23 Q. You said 2004, you meant 2014?</p> <p>24 A. You're correct.</p>	<p style="text-align: right;">Page 51</p> <p>1 Q. Were you retained on behalf of</p> <p>2 the Plaintiffs?</p> <p>3 A. Yes.</p> <p>4 Q. What would the next one be?</p> <p>5 A. Virginia and Robert Nester v.</p> <p>6 Textron, Incorporated.</p> <p>7 Q. Okay. What was the product</p> <p>8 involved?</p> <p>9 A. That's a golf car.</p> <p>10 Q. Golf cart?</p> <p>11 A. Golf car.</p> <p>12 Q. Car?</p> <p>13 A. Car.</p> <p>14 Q. Like you drive around on the</p> <p>15 golf course?</p> <p>16 A. Yes.</p> <p>17 Q. Were you retained on behalf of</p> <p>18 the Plaintiff?</p> <p>19 A. Yes.</p> <p>20 Q. What was the issue in that</p> <p>21 case?</p> <p>22 A. The issue was -- that I was</p> <p>23 asked to address?</p> <p>24 Q. Yes.</p>
<p style="text-align: right;">Page 50</p> <p>1 Q. What was the product?</p> <p>2 A. That was a fall arrest system.</p> <p>3 Q. Like a harness?</p> <p>4 A. Well, it was the complete</p> <p>5 system. I'm trying to think now if that</p> <p>6 actually involved an on-product warning. So</p> <p>7 we'll put that in the maybe category.</p> <p>8 Q. Okay. Were you retained on</p> <p>9 behalf of the Plaintiff?</p> <p>10 A. Yes.</p> <p>11 Q. Okay. What would the next one</p> <p>12 be?</p> <p>13 A. Next one that I see is March</p> <p>14 2015, Member Select Insurance Company vs.</p> <p>15 Electrolux Home Products and Sears.</p> <p>16 Q. What was the product involved</p> <p>17 in that?</p> <p>18 A. That was a clothes dryer.</p> <p>19 Q. What was the issue?</p> <p>20 A. Multiple issues, but failure to</p> <p>21 warn. Failure to provide adequate on-product</p> <p>22 warning was one of the issues.</p> <p>23 Q. Was that a dryer fire?</p> <p>24 A. Yes, lint dryer fire.</p>	<p style="text-align: right;">Page 52</p> <p>1 A. The failure of the on-product</p> <p>2 warning to effectively and adequately</p> <p>3 communicate the risks that were involved with</p> <p>4 the incident.</p> <p>5 Q. What was the risk?</p> <p>6 A. Inadvertent activation of the</p> <p>7 golf cart.</p> <p>8 Q. Okay. What was the next one?</p> <p>9 A. The next one looks to be June</p> <p>10 2016, Westfield Insurance vs. Modern Glass</p> <p>11 Paint and Tile Company.</p> <p>12 Q. What was the product about?</p> <p>13 A. That may have been a stain as</p> <p>14 well.</p> <p>15 Q. Were you retained on behalf of</p> <p>16 the Plaintiff?</p> <p>17 A. Yes.</p> <p>18 Q. What's the next?</p> <p>19 A. August 2015, United Preferred</p> <p>20 Insurance Company vs. Electrolux North</p> <p>21 America.</p> <p>22 Q. What was the product involved?</p> <p>23 A. Clothes dryer.</p> <p>24 Q. Lint fire?</p>

<p>1 A. Lint dryer fire, yes.</p> <p>2 Q. Were you retained on behalf of</p> <p>3 the Plaintiff?</p> <p>4 A. Yes.</p> <p>5 Q. What's next?</p> <p>6 A. Kelvin and Krystle Carr vs.</p> <p>7 Taylor Industries, LLC.</p> <p>8 Q. What product was involved?</p> <p>9 A. That was an oil well service</p> <p>10 rig.</p> <p>11 Q. Were you retained on behalf of</p> <p>12 the Plaintiff?</p> <p>13 A. Yes.</p> <p>14 Q. Next one?</p> <p>15 A. That's it.</p> <p>16 Q. You had said 15, I counted 14.</p> <p>17 A. Yes, I told you I thought it</p> <p>18 was about 15.</p> <p>19 Okay. Well, I'm not going to</p> <p>20 cross-examine you on that. If I did, I don't</p> <p>21 think I'd win the case.</p> <p>22 Have you ever been precluded</p> <p>23 from testifying by a Court?</p> <p>24 A. Sure.</p>	<p>Page 53</p> <p>1 A. Well, I've had multiple Daubert</p> <p>2 challenges that have been successfully</p> <p>3 overcome in the last dozen years.</p> <p>4 Q. I'm talking about the one that</p> <p>5 you were precluded.</p> <p>6 A. That one was either Connecticut</p> <p>7 or New York.</p> <p>8 Q. If New York, the Southern</p> <p>9 District?</p> <p>10 A. I don't remember whether it was</p> <p>11 New York or Connecticut. I don't remember</p> <p>12 which particular district.</p> <p>13 Q. Have you been precluded any</p> <p>14 other times?</p> <p>15 A. The only other thing I can</p> <p>16 remember was after -- I was in trial in</p> <p>17 Florida State Court and the defense objected</p> <p>18 to my testimony and the Judge had me go and</p> <p>19 direct the Plaintiff outside the Jury's</p> <p>20 purview, and then ruled afterwards that he</p> <p>21 wasn't going to let any expert testify.</p> <p>22 So, I think that would preclude</p> <p>23 me from testifying. But I don't think it had</p> <p>24 anything to do with my testimony. The Judge</p>
<p>1 Q. How often?</p> <p>2 A. There are two Daubert</p> <p>3 challenges where the Judge ruled that I would</p> <p>4 not be allowed -- actually, one Daubert</p> <p>5 challenge where they would not allow me to</p> <p>6 testify in a case.</p> <p>7 And then there was a case in</p> <p>8 Virginia State Court where a Judge wouldn't</p> <p>9 let me testify because she felt the state of</p> <p>10 Virginia didn't recognize the field of or</p> <p>11 science of human factors.</p> <p>12 Q. Are either of those on your</p> <p>13 Testimony List?</p> <p>14 A. No.</p> <p>15 Q. They preceded that or did you</p> <p>16 not give testimony?</p> <p>17 A. The Daubert case was 2004 where</p> <p>18 the Judge ruled that the field of psychology</p> <p>19 was nothing more than common sense.</p> <p>20 Therefore, my opinions were beyond the</p> <p>21 province of the Jury. The Virginia case was,</p> <p>22 I'm going to say, around the 2010 time frame.</p> <p>23 Q. What Federal Court was the</p> <p>24 Daubert challenge?</p>	<p>Page 54</p> <p>1 felt it was a veracity issue between the</p> <p>2 Plaintiff and Defendant, so he wasn't going to</p> <p>3 let any expert testify.</p> <p>4 Q. Any others?</p> <p>5 A. Not that I can recall.</p> <p>6 Q. Have you ever been -- have you</p> <p>7 ever had any portion of your testimony</p> <p>8 restricted going into trial by Daubert or any</p> <p>9 other reason other than what you just told me?</p> <p>10 A. I'm pretty sure my testimony is</p> <p>11 always restricted to what my opinions are in</p> <p>12 my field.</p> <p>13 Q. Do you know what I mean by that</p> <p>14 question?</p> <p>15 A. You're saying that --</p> <p>16 Q. Someone filed a Motion and said</p> <p>17 I want to preclude him and the Judge precluded</p> <p>18 some of it, but not all of it?</p> <p>19 A. The only time -- if they were</p> <p>20 the opinions I was planning on giving, the</p> <p>21 Judge wouldn't let me give all them, the only</p> <p>22 time I can remember was a Court in Maryland</p> <p>23 involving a bicycle collision where the</p> <p>24 bicyclist hit a defect in the sidewalk, and I</p>

<p style="text-align: right;">Page 57</p> <p>1 think the Judge only allowed me to testify on 2 certain -- or only provide certain opinions of 3 the substantive opinions that I planned to 4 give.</p> <p>5 Q. Do you know why you were 6 restricted?</p> <p>7 A. I don't know why.</p> <p>8 Q. Well, do you know whether you 9 were restricted because your opinions were not 10 scientific?</p> <p>11 A. I don't believe that my 12 opinions have ever been found to be not 13 scientific.</p> <p>14 Q. Has any of your testimony, to 15 your knowledge, been stricken after you have 16 testified by a trial judge or subsequently on 17 appeal?</p> <p>18 A. No.</p> <p>19 - - -</p> <p>20 (Whereupon, a short break was taken at 21 this time.)</p> <p>22 - - -</p> <p>23 THE WITNESS: I remembered 24 another Daubert challenge in Virginia State</p>	<p style="text-align: right;">Page 59</p> <p>1 about?</p> <p>2 A. I believe so.</p> <p>3 Q. What does that mean, what are 4 those articles?</p> <p>5 A. Generally, it's an issue with 6 the way manufacturers provide information in 7 manuals. These were studies that looked 8 at -- they were for power tools, there were 9 multiple power tools and they were UL listed 10 power tools. And UL has a certain set of 11 requirements for warnings to be presented in 12 the literature for the particular product to 13 be UL certified.</p> <p>14 The problem is that the 15 manufacturers are taking that list of warnings 16 and dropping them in within the order that UL 17 is providing.</p> <p>18 Q. Do you mean sort of the 19 numerical order of the UL requirements?</p> <p>20 A. No. UL has a list of warnings, 21 these warnings have to be in the literature, 22 and they just list them out. There's no real 23 reason or intention for -- on behalf of UL to 24 say this is the order in which you have to</p>
<p style="text-align: right;">Page 58</p> <p>1 Court where the Judge ruled that the hazard 2 was an act of God. Therefore, there was no 3 responsibility on behalf of the manufacturer 4 to provide a warning.</p> <p>5 BY MR. HEINOLD:</p> <p>6 Q. So someone filed a Daubert 7 Motion to preclude you and the Judge granted 8 that Motion because he said there was no need 9 for a warning because the event was an act of 10 God?</p> <p>11 A. Mine and the other expert in 12 the case.</p> <p>13 Q. Expert for Plaintiff or 14 Defendant?</p> <p>15 A. Plaintiff, same side.</p> <p>16 Q. I saw in your C.V. some various 17 publications that are references to what I'll 18 call ordering and prioritizing warnings and 19 product manuals?</p> <p>20 A. Okay.</p> <p>21 Q. Does that sound correct, my 22 general statement?</p> <p>23 A. Sure.</p> <p>24 Q. You recognize what I'm talking</p>	<p style="text-align: right;">Page 60</p> <p>1 present the warning. It's just these are the 2 list of warnings you have to present.</p> <p>3 The problem with it is that a 4 lot of UL warnings are what we would consider 5 common sense, warnings that people would have 6 information on. So, for example, don't 7 submerge an electrical product into water, 8 that's a fairly well-known warning dealing 9 with electrical tools. So why should that be 10 first on the list.</p> <p>11 Later on in the list and other 12 warnings that the manufacturer give that 13 product specific are lesser known hazards, 14 lesser known instructions, lesser known 15 information, and they tend to be populated at 16 the bottom of the list.</p> <p>17 One of the things we know from 18 a warnings perspective is if you give people 19 warnings that they're well aware of at the 20 start of a list or at the start of a 21 publication they're going to stop reading it 22 because they're going to think that it's 23 information they already know or have or 24 self-evident and therefore, there's no reason</p>

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<p>1 to spend the time reading through an entire 2 list of obvious information.</p> <p>3 So if you want to get the user 4 to read and understand information that is 5 specific to your product or unique to your 6 product, you need to provide it higher in that 7 prioritization or make it more of a priority 8 in the way you're presenting it in the manual.</p> <p>9 Q. Were there rules about that? I 10 mean, did you come to conclusions about how to 11 prioritize it?</p> <p>12 A. There are conclusions in the 13 studies. Typically, I suggest in the study 14 that you put information that people are not 15 aware of, not open and obvious, not commonly 16 known first, present that information first so 17 the user will recognize that they're getting 18 information that they didn't know, information 19 that is important, that it's filling knowledge 20 gaps and that it's worthwhile to continue 21 reading.</p> <p>22 Q. Those were studies that you 23 did?</p> <p>24 A. Yes.</p>	<p>1 manuals. So those are one that are specific 2 to product manuals.</p> <p>3 Q. Have you done any other 4 research on the issue of prioritizing warnings 5 on products?</p> <p>6 A. On product, yes.</p> <p>7 Q. What have you done for 8 prioritization on-product warnings?</p> <p>9 A. What I've published under 10 Publications and Presentations is Page 7 would 11 be Vigilante Wogalter, The ordering of 12 over-the-counter pharmaceutical label 13 components.</p> <p>14 Q. What year? Oh, I see, 1997, 15 The preferred order of over-the-counter 16 pharmaceutical label components?</p> <p>17 A. Yes.</p> <p>18 Q. Did that deal with on-product?</p> <p>19 A. Yes.</p> <p>20 Q. Only?</p> <p>21 A. That was only on-product. The 22 information on that study was used by the FDA 23 when they redid their over-the-counter 24 labeling format requirements in 1999.</p>	
	Page 62	Page 64
<p>1 Q. And you did those while at NC 2 State as a graduate student?</p> <p>3 A. Yes.</p> <p>4 Q. I didn't see any other 5 publications on that topic of prioritizing in 6 manuals, warnings in manuals, except for two, 7 1997, 1996. Did I miss any?</p> <p>8 I mean, when I asked the 9 question about prioritization you went to 10 those studies.</p> <p>11 A. The first two that are related 12 to the prioritization of warnings and product 13 manuals are Vigilante 1998 and Vigilante 1997, 14 and then should be a --</p> <p>15 Q. Okay. That's on Page 6, 1998, 16 Product manual safety warnings effective 17 ordering?</p> <p>18 A. Yes.</p> <p>19 Q. And 1997, okay.</p> <p>20 A. Okay. Then on the next page, 21 Vigilante, Wogalter 1997 on the prioritization 22 of safety warnings in product manuals. And 23 then there's Vigilante, Wogalter 1996, 24 Ordering of safety warnings in product</p>	<p>1 Q. When you talk about on-product 2 on over-the-counter pharmaceuticals, are you 3 talking about on the package?</p> <p>4 A. On the container of the, for 5 example, medication pills or tablets or 6 whatever, your aspirin bottle or your Tylenol 7 bottle or what have you.</p> <p>8 Q. What conclusions did you reach 9 there?</p> <p>10 A. Well, the conclusions that I 11 reached was the way medication label -- 12 over-the-counter medication labeling was 13 presented, the information was presented was 14 with information that the user, the end user 15 didn't care about, couldn't understand, didn't 16 need.</p> <p>17 So it gets into the problem, 18 again, where you're presenting information 19 that's irrelevant or not understandable to the 20 consumer and preventing them from getting the 21 information that they need which is buried 22 further in the label.</p> <p>23 So if you put the information 24 the user needs up front, like, for example,</p>	

<p>1 directions and contraindications, the user 2 doesn't have to go searching for it. They're 3 more likely to see it and they're more likely 4 to read it.</p> <p>5 Q. So, for example, a bottle of 6 aspirin, you're talking about putting it on 7 the bottle?</p> <p>8 A. Yes.</p> <p>9 Q. Not the box, not the inserts?</p> <p>10 A. Well, I think the requirements 11 for the box and the insert -- excuse me, the 12 box and the bottle are the same because a lot 13 of medications, over-the-counter medications 14 are sold just in a container, not a box, 15 although some are sold in the box, the 16 container in the box.</p> <p>17 Q. All right. I read your report, 18 you listed the things that you reviewed and 19 relied on. Is there anything that you didn't 20 list that you reviewed or relied on?</p> <p>21 A. As far as discovery material, I 22 list everything in here that I reviewed for 23 this case. As far as specific references used 24 to support my opinions, I provided them in</p>	<p>Page 65</p> <p>1 Q. It's kind of hard for me to 2 question you about it if it's on the thumb 3 drive.</p> <p>4 A. The other stuff I did bring 5 hard copies so we can look at it here.</p> <p>6 Q. Extra hard copies?</p> <p>7 A. Not extra ones. Just one copy.</p> <p>8 MR. LEVINE: I can make 9 copies.</p> <p>10 BY MR. HEINOLD:</p> <p>11 Q. Of what? What did you bring?</p> <p>12 A. So, for example --</p> <p>13 Q. Of the things that are on 14 there?</p> <p>15 A. -- I brought some printouts 16 from websites dealing with winterization of 17 motorcycles, overheating of air-cooled 18 engines, water-cooled engines, et cetera. And 19 then I brought several photographs of 20 different motorcycles. One is a Yamaha YZF, 21 1998, depicting the oil sight glass on the 22 right side of the engine so that when it's on 23 its kickstand the oil doesn't cover the oil 24 sight glass like it does on the incident</p>
<p>1 Section G.</p> <p>2 Other things that I'm relying 3 upon are my education, experience and 4 training. And then I did bring some 5 additional photographs that I did not provide 6 in the report. And I did have a couple other 7 websites that I had looked at, downloaded 8 prior to writing my report that I didn't 9 reference specifically in the report.</p> <p>10 Q. So is this something you can 11 provide me?</p> <p>12 A. Sure.</p> <p>13 Q. That I can see it, or are you 14 going to tell me I have to write it down?</p> <p>15 A. Do you want to see it now or 16 you want it later?</p> <p>17 Q. I don't know what they are.</p> <p>18 A. Sure.</p> <p>19 Q. I mean, we can do it later.</p> <p>20 A. I provided my entire file on 21 the thumb drive. It's my understanding you 22 wanted a copy of my entire file.</p> <p>23 Q. Oh, here (indicating)?</p> <p>24 A. Yes, it's yours to take home.</p>	<p>Page 66</p> <p>1 bike.</p> <p>2 I also photographed warnings 3 that are on the bottom of that motorcycle. As 4 I'm sure one of the things you've asked about 5 was -- for instance, the propensity of 6 likelihood of the manufacturers to put 7 warnings directly on the body of the 8 motorcycle.</p> <p>9 So here's an example of the 10 Yamaha putting a warning sticker right on the 11 fuel tank above the Yamaha YZF sport bike and 12 a warning on the windshield front fairing of 13 the bike.</p> <p>14 Then I brought a photograph of 15 a BMW, 2010 BMW F800 GS showing the dipstick 16 on the left side of the crank case in a 17 similar position, although not exact, same 18 position as the oil sight glass on the 19 incident bike.</p> <p>20 And then I provided just an 21 article from American Motorcyclist in 2007 22 that categorizes the Yamaha YZF and the 23 BMW R1150 R sports bike. So they're in the 24 same category as opposed to my</p>

<p style="text-align: right;">Page 69</p> <p>1 Harley-Davidson, which is a different category 2 of bike.</p> <p>3 And then I brought photographs 4 of the control panel console and the steering 5 head of an R1150 R BMW motorcycle and an 6 R1100rsl motorcycle.</p> <p>7 In my report I discuss 8 alternatives to place the warning on the bike, 9 and I wanted to bring photographs to show the 10 area I was talking about so we are clear and 11 on the same page as to what I was referring to 12 in the report.</p> <p>13 Q. Is all of this information that 14 you just generalized for me here something you 15 had prior to writing your report?</p> <p>16 A. I had everything except for the 17 photographs of the Yamaha YZF and photographs 18 of the F800 GS. Just to clarify, I did see 19 both bikes in person prior to writing my 20 report. I didn't photograph them until after 21 writing my report.</p> <p>22 Q. Okay. Why did you not include 23 those in your report?</p> <p>24 A. I didn't think it was necessary</p>	<p style="text-align: right;">Page 71</p> <p>1 Q. Other than those additional 2 things, is there anything else in your report 3 that you reviewed or relied for purposes of 4 this case? I'm sorry, that you reviewed or 5 relied on?</p> <p>6 A. The only additional work I did 7 was review the report of -- I think his name 8 was Mr. Breen?</p> <p>9 Q. Yes.</p> <p>10 A. So I think that's the only 11 additional thing I did other than prepare for 12 the deposition.</p> <p>13 Q. And does the list of the things 14 you reviewed and the report fairly depict all 15 work that you've done to perform -- to prepare 16 your report in this case and reach your 17 opinions?</p> <p>18 A. I'm not quite sure I understand 19 that.</p> <p>20 Q. Okay. Tell me what you did to 21 prepare your report. I don't mean sit down 22 and prepare your report, but I mean from the 23 time you were retained in this case -- when 24 were you retained, by the way?</p>
<p style="text-align: right;">Page 70</p> <p>1 at the time.</p> <p>2 Q. Why do you think it's necessary 3 now?</p> <p>4 A. Because I knew you would ask me 5 about everything I looked at and I tried to 6 make sure my file was complete as possible.</p> <p>7 Q. Did you think when you were 8 writing your report I wasn't going to ask you 9 that?</p> <p>10 A. Typically when I write my 11 report I write it to express my opinions and 12 support my opinions. When I get ready for a 13 deposition I try to anticipate what's going to 14 be asked or required by the opposing attorney.</p> <p>15 MR. HEINOLD: I would like to 16 get copies of those, Ken. You don't have to 17 do it this minute. You can do it when we take 18 a break.</p> <p>19 MR. LEVINE: Okay, next break 20 I'll send it out for colored copies.</p> <p>21 MR. HEINOLD: I am going to 22 want to ask him about that. Having not seen 23 them I'm at a disadvantage at this moment.</p> <p>24 BY MR. HEINOLD:</p>	<p style="text-align: right;">Page 72</p> <p>1 A. I was officially retained in 2 October of 2015. I should say Vigilante 3 Forensic was retained in I think October of 4 2015. I may have been retained prior than 5 October 2015 when I was with my prior 6 company. I don't have the file from my prior 7 company because I left. So I don't have the 8 inquiry sheet, if it was created before then.</p> <p>9 Q. Do you have a list of the 10 activities you performed in this case?</p> <p>11 A. I don't have a list of 12 activities, per se. But typically my reports 13 are written in the way that I can go through 14 the file.</p> <p>15 So, for example, I'll start 16 with a brief understanding of the issue, and 17 then I'll discuss a purpose to my 18 investigation. That is the hypothesis I want 19 to test, and then I'm provided with the 20 discovery material that's available. I'll go 21 through that material to get a better 22 understanding of the product, of the issue 23 relevant to my purpose, and I'll go through 24 the information to determine what happened and</p>

<p>1 how it happened.</p> <p>2 So, for example, Mr. Yazdani's</p> <p>3 testimony as to what he did, why he did, how</p> <p>4 he did it. And then I go through my analysis,</p> <p>5 and in going through my analysis I corporate</p> <p>6 my education, training and experience to</p> <p>7 determine and test my hypothesis.</p> <p>8 So the first thing I addressed</p> <p>9 was did BMW provide adequate warning? My</p> <p>10 analysis goes through the steps on how I came</p> <p>11 to my conclusions that they failed to provide</p> <p>12 adequate warning. Then the next thing I did</p> <p>13 was looked at whether BMW North America was</p> <p>14 aware of the need to provide on-product</p> <p>15 warning.</p> <p>16 Q. I seen your report. We don't</p> <p>17 have to go through it.</p> <p>18 I'm interested in, for example,</p> <p>19 you mentioned that you inspected some other</p> <p>20 vehicle, some other motorcycles?</p> <p>21 A. Yes.</p> <p>22 Q. Okay. And in your report you</p> <p>23 say you may use as Exhibits as photos --</p> <p>24 looking at Page 2, photos of the incident</p>	<p>Page 73</p> <p>1 background in I guess design, development and</p> <p>2 testing of motorcycles.</p> <p>3 Q. And what did you ask?</p> <p>4 A. We talked about my experiences</p> <p>5 and his experiences. We talked a little bit</p> <p>6 about the use of oil sight glasses in bikes,</p> <p>7 his experience with them, my experience with</p> <p>8 them. Just kind of generalities.</p> <p>9 Q. Did he give you any information</p> <p>10 you thought useful?</p> <p>11 A. Yeah, I don't think that he</p> <p>12 told me anything I didn't know.</p> <p>13 Q. Where is he?</p> <p>14 A. He's located in Ohio.</p> <p>15 Q. You went out there?</p> <p>16 A. Well, I was out there for</p> <p>17 another case that he and I were investigating.</p> <p>18 Q. Where in Ohio?</p> <p>19 A. He's outside of Columbus.</p> <p>20 Q. Does he operate a business?</p> <p>21 A. Yes.</p> <p>22 Q. What's the name of his</p> <p>23 business?</p> <p>24 A. 830 Engineering.</p>
<p>1 motorcycle and exemplar motorcycle. You</p> <p>2 didn't say that you had looked at other</p> <p>3 motorcycles.</p> <p>4 A. I'm sorry?</p> <p>5 Q. So I'm wondering what other</p> <p>6 activities that you conducted prior to</p> <p>7 authoring your report?</p> <p>8 A. Well, I did --</p> <p>9 Q. You reviewed the material that</p> <p>10 you said was available?</p> <p>11 A. Yes.</p> <p>12 Q. What else?</p> <p>13 A. I looked at the websites to get</p> <p>14 information on issues that are relevant. I</p> <p>15 looked at my motorcycle manual. I looked at</p> <p>16 my motorcycle. I talked to a friend of mine</p> <p>17 that is an expert in motorcycles. And when I</p> <p>18 was at his place back in October I looked at</p> <p>19 his bikes which are the photographs that I</p> <p>20 took later on.</p> <p>21 Q. Who is that person?</p> <p>22 A. Erin Higinbotham.</p> <p>23 Q. And you say he is? What is he?</p> <p>24 A. Well, he's an engineer with a</p>	<p>Page 74</p> <p>1 Q. 8-3-0?</p> <p>2 A. Correct.</p> <p>3 Q. What town?</p> <p>4 A. I'm going to say Milford</p> <p>5 Center.</p> <p>6 Q. I'm sorry, I interrupted your</p> <p>7 answer to ask that question. Go ahead.</p> <p>8 A. I don't know where I was. I</p> <p>9 kind of lost track.</p> <p>10 MR. HEINOLD: Do you want to</p> <p>11 read it back.</p> <p>12 - - -</p> <p>13 (Whereupon, the court reporter read the</p> <p>14 pertinent information.)</p> <p>15 - - -</p> <p>16 THE WITNESS: Okay, so I did</p> <p>17 that. I did look at the websites, and I don't</p> <p>18 recall if I asked friends that are</p> <p>19 motorcyclists their understanding of the</p> <p>20 potential -- if they understood that there was</p> <p>21 a potential fire hazard associated with</p> <p>22 leaving their bike idling, what their</p> <p>23 practices were with respect to leaving it</p> <p>24 idle. I just don't recall specific instances,</p>

<p>1 but it's possible that I did.</p> <p>2 BY MR. HEINOLD:</p> <p>3 Q. You may have talked to some of</p> <p>4 your friends?</p> <p>5 A. Sure.</p> <p>6 Q. Or you did?</p> <p>7 A. I'm saying I may have because I</p> <p>8 typically -- because typically if I'm involved</p> <p>9 in a case that is either a common product or a</p> <p>10 product that has a -- people that I knew that</p> <p>11 you used them, you know, I'll talk to them</p> <p>12 about my case and explain a little bit about</p> <p>13 it, kind of get their feedback on what their</p> <p>14 practices and knowledge were. Just kind of a</p> <p>15 general research, if you will, not something</p> <p>16 that I'm specifically relying upon for my</p> <p>17 opinions. Just kind of general background.</p> <p>18 Q. Anything else?</p> <p>19 A. I think that would be it.</p> <p>20 Q. On Page 6 of your report --</p> <p>21 wait a minute, Page 5 of your report, Section</p> <p>22 E, talking about providing an adequate</p> <p>23 warning.</p> <p>24 MR. LEVINE: Off the record a</p>	<p>Page 77</p> <p>1 understanding the design decisions and choices</p> <p>2 that were available or made.</p> <p>3 Q. Okay. Well, I understand, for</p> <p>4 example, the product hierarchy, there is a</p> <p>5 design and you should try to design out the</p> <p>6 hazard. If you can't, then you offer a</p> <p>7 warning. They're two separate issues.</p> <p>8 A. Well, they're not separate</p> <p>9 issues.</p> <p>10 Q. Well, let me just finish. I</p> <p>11 understand that the design issue is a</p> <p>12 predicate for the warning, right?</p> <p>13 A. Yes. So the design of the BMW</p> <p>14 creates a potential for a hazardous situation,</p> <p>15 that is the potential for fire. There was</p> <p>16 choices that BMW made in the design of the</p> <p>17 bike that could have eliminated that</p> <p>18 potential. They chose not to. If they're</p> <p>19 going to not eliminate through design, they</p> <p>20 have the option of safeguarding it.</p> <p>21 I think that Mike Zazula</p> <p>22 addressed some of those issues guarding it</p> <p>23 with the use of the optional police fan kit.</p> <p>24 I don't recall offhand if he had an issue with</p>
<p>1 second.</p> <p>2 - - -</p> <p>3 (Whereupon, a discussion was held off</p> <p>4 the record.)</p> <p>5 - - -</p> <p>6 BY MR. HEINOLD:</p> <p>7 Q. The warning that you cite in</p> <p>8 the manual you talk about Mr. Yeldham's</p> <p>9 testimony and you talk about Mr. Zazula's</p> <p>10 report in the next paragraph.</p> <p>11 A. Okay.</p> <p>12 Q. Now, I had asked you about the</p> <p>13 scope of your expertise as a motorcycle design</p> <p>14 expert, you said -- your Counsel said you're</p> <p>15 going to be sticking within your report.</p> <p>16 Are your references here to</p> <p>17 those things references to the need for a</p> <p>18 warning as compared to a criticism of the</p> <p>19 design other than a warning?</p> <p>20 A. Yes. So my opinions are</p> <p>21 both. So the need for a warning is dependent</p> <p>22 upon the design choice that BMW made or BMW</p> <p>23 North America made. So you can't have</p> <p>24 opinions with respect to warnings without</p>	<p>Page 78</p> <p>1 respect to the monitoring of the engine</p> <p>2 temperature, potential shutting it down if it</p> <p>3 got too hot. But certainly, those are</p> <p>4 guarding solutions that were available to BMW</p> <p>5 to my understanding and they chose not to do</p> <p>6 that.</p> <p>7 And then so they relied upon a</p> <p>8 warning as their mitigation strategy. And my</p> <p>9 opinion is that reliance on that warning was</p> <p>10 inappropriate in that the warning they</p> <p>11 provided was inadequate. And that if they</p> <p>12 were going to rely upon the warning, solely</p> <p>13 upon the warning, they needed to provide it on</p> <p>14 the motorcycle itself like they did with the</p> <p>15 recall motorcycle a few years prior because of</p> <p>16 the unique characteristic of the potential</p> <p>17 fire hazard with the design of this bike.</p> <p>18 Q. I understand that. My question</p> <p>19 is: Are you going to criticize the design as</p> <p>20 a design? Are you going to say the</p> <p>21 motorcycle -- forget the warnings. Are you</p> <p>22 going to say I'm the motorcycle expert and</p> <p>23 this motorcycle is defective because it had a</p> <p>24 sight glass in this location and I'm offering</p>

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<p>1 an alternative?</p> <p>2 A. No. My opinion is that because</p> <p>3 of the way they designed it, they created a</p> <p>4 potential fire hazard, and as such they had a</p> <p>5 responsibility to mitigate that, and they</p> <p>6 could have mitigated it through design or</p> <p>7 guarding. If they weren't doing to do that,</p> <p>8 they should have at least provide adequate</p> <p>9 warning, and the warning that they did chose</p> <p>10 to provide was inappropriate and inadequate.</p> <p>11 Q. Are you offering an opinion</p> <p>12 that the design of the motorcycle beyond the</p> <p>13 warning is defective and unsafe?</p> <p>14 A. I think that they were --</p> <p>15 excuse me, I think that they already</p> <p>16 established that. I'm not establishing the</p> <p>17 fact that oil sight glass or its position in</p> <p>18 its composition failed meeting to a</p> <p>19 catastrophic event. That's why I'm citing</p> <p>20 Mark Yeldham, his testimony, to establish</p> <p>21 that.</p> <p>22 So I'm not planning on</p> <p>23 establishing that on my own. I'm using his</p> <p>24 testimony to establish that there was a hazard</p>		<p>1 MR. LEVINE: Oh, okay.</p> <p>2 MR. HEINOLD: I'm with you a</p> <p>3 hundred percent. There's a warning that says</p> <p>4 here's a hazard, don't do this, and that's</p> <p>5 what we're here about.</p> <p>6 But your last statement that</p> <p>7 he's going to say if you had a different</p> <p>8 design you wouldn't have the hazard, he</p> <p>9 doesn't have that in his report. And if you</p> <p>10 are going to declare him to be a motorcycle</p> <p>11 design expert, then we'll see if he</p> <p>12 qualifies. But that is the next step.</p> <p>13 MR. LEVINE: The part that you</p> <p>14 don't agree with me on, let me just address</p> <p>15 that just for a second, I'm rather confident</p> <p>16 that your own client who designed the bike</p> <p>17 would say that if designed differently, as</p> <p>18 some other vehicles are designed, that that</p> <p>19 precise hazard would not exist. It's just a</p> <p>20 nature of the design of that particular bike.</p> <p>21 So I don't think it requires</p> <p>22 him to be an expert, although he probably has</p> <p>23 enough of that expertise to say that</p> <p>24 statement, that if it was designed differently</p>	
	Page 82		Page 84
<p>1 due to the design of this bike.</p> <p>2 Q. Okay.</p> <p>3 MR. HEINOLD: Ken, do you</p> <p>4 understand my question?</p> <p>5 MR. LEVINE: I do. I think</p> <p>6 that you're asking him to disconnect</p> <p>7 something -- let me start off, you can keep</p> <p>8 this on the record. Inevitably he has to say</p> <p>9 that the design resulted in a hazard. I don't</p> <p>10 think that he is opining that personally other</p> <p>11 than through the acceptance of statements by</p> <p>12 folks at BMW and other experts that such a</p> <p>13 hazard simply exists based on it.</p> <p>14 I don't think he's going to</p> <p>15 come in, and correct me if I'm wrong, and</p> <p>16 testify that the design in and of itself</p> <p>17 should have been different. But he will say</p> <p>18 the obvious, which he's already stated, that</p> <p>19 if it did not have that design it would not</p> <p>20 have that hazard.</p> <p>21 So you're asking him is he an</p> <p>22 expert in that area?</p> <p>23 MR. HEINOLD: See, I don't know</p> <p>24 that I can agree with your last statement.</p>		<p>1 it would not have that hazard. I doubt your</p> <p>2 client or you when you pause for a second</p> <p>3 would disagree with that statement. So that's</p> <p>4 all that he would be saying, I believe, and he</p> <p>5 can answer for himself.</p> <p>6 So when you say is he a</p> <p>7 motorcycle expert as to the design or whether</p> <p>8 or not the design generated that hazard, I</p> <p>9 believe that everybody involved knows that the</p> <p>10 design generated that hazard. So I'm not</p> <p>11 sure -- I'll be happy to continue.</p> <p>12 MR. HEINOLD: I will say this,</p> <p>13 I don't disagree with you that it has a design</p> <p>14 and that design can lead to the consequences</p> <p>15 of a fire if you leave it idling at</p> <p>16 standstill, because there's a hazard</p> <p>17 recognized and a warning in the manual to that</p> <p>18 effect.</p> <p>19 MR. LEVINE: Then a safety</p> <p>20 engineer or an ergonomic expert will</p> <p>21 inevitably say every single time you've got</p> <p>22 this hazard that I've been asked to address,</p> <p>23 but that integral with that opinion is the</p> <p>24 straightforward statement that if it had been</p>	

<p>1 designed differently, it's not the case with 2 all products, but if it was designed 3 differently it would not have that hazard.</p> <p>4 MR. HEINOLD: And what's the 5 different design he's going to say it should 6 be?</p> <p>7 MR. LEVINE: Oh, he's not going 8 to say it should be because there's six 9 million ways to build a motorcycle, and some 10 of them will have that hazard, some of them 11 will not have that hazard based on their 12 design.</p> <p>13 I think that -- again, I 14 welcome his contribution to the conversation, 15 but I think his opinion is that when a 16 motorcycle is designed in this fashion, if the 17 manufacturer chooses to allow this hazard to 18 exist, because the nature of the design of 19 this motorcycle, not unlike every other 20 motorcycle, but the design of this type of 21 motorcycle generates this hazard, and once 22 they decided to have that design, which would 23 generate this known hazard, then they must do 24 X, Y and Z, but they are not guiltless --</p>	<p>Page 85</p> <p>1 if he has opinions with regard to other 2 designs that would not generate the hazard. 3 You can ask him whatever 4 questions you'd like to ask him. I've tried 5 to answer I think the conflict between you as 6 best I can.</p> <p>7 MR. HEINOLD: Well, I think 8 your position tries to turn him into a design 9 expert, which he doesn't have in his report.</p> <p>10 MR. LEVINE: I think the scope 11 of his opinions that he will say at trial with 12 regard to design and hazard generation as a 13 result of this design are stated in his 14 opinion and will be the testimony at the time 15 of trial.</p> <p>16 But if you want to explore 17 that, if you feel as if he's going to give 18 testimony at trial beyond the scope of his 19 abilities or the scope of his report, I 20 certainly appreciate that, and an issue will 21 arise that we're going to have to address.</p> <p>22 But I think that your questions may eliminate 23 that concern.</p> <p>24 BY MR. HEINOLD:</p>
<p>1 that's a horrible lawyer word that I'm using. 2 They're not guiltless deciding, all right, 3 we're going to design it to allow this hazard 4 to exist.</p> <p>5 MR. HEINOLD: You have an 6 expert who has addressed the design issues.</p> <p>7 MR. LEVINE: Yes, we have.</p> <p>8 MR. HEINOLD: And this witness 9 has addressed the warning issues given the 10 design.</p> <p>11 MR. LEVINE: You have just 12 limited, frankly, the scope of his testimony. 13 He was asked to analyze the safety. You want 14 to say he was asked to analyze the warning. I 15 think any ergonomic expert is going to be 16 asked to analyze the safety. Integral to that 17 is a review as to the hazard and what causes 18 them, first and foremost, and that inevitably 19 goes back to the design.</p> <p>20 So it would be impossible for 21 him to say I'm analyzing the safety that led 22 to fire, that he did not look at the design, 23 the design options and whether or not they 24 created a hazard. I don't -- you can ask him</p>	<p>Page 86</p> <p>1 Q. Do you consider yourself a 2 motorcycle design expert?</p> <p>3 A. It depends on the specific 4 topic.</p> <p>5 Q. How about on the location of 6 sight glasses, are you an expert in the 7 location and use of sight glasses for oil 8 systems?</p> <p>9 A. It depends on the question. So 10 maybe I can short circuit this. I do not plan 11 on providing an alternative design solution. 12 So I would leave that to Zazula and Yeldham 13 and anybody else that testifies.</p> <p>14 My opinion is simply that it's 15 my understanding that bikes that are designed 16 differently don't have this hazard. If you're 17 going to choose this design that creates this 18 hazard you need to A, accept that you're doing 19 it, and then B, think about providing a 20 different design.</p> <p>21 If you can't provide a 22 different design for whatever reason, you have 23 to decide whether or not you're going to 24 provide a safeguard to prevent the hazard from</p>

<p>1 occurring that is inherit in your design. And 2 if you're not going to do that, then you need 3 to provide an adequate warning. 4 My opinion is that instead of 5 providing a design that doesn't create the 6 hazard, BMW, for whatever reason, I don't know 7 for whatever reason, given the hazard, chose 8 to leave it in the design of the bike. They 9 didn't provide a safeguard to prevent the 10 hazard from occurring.</p> <p>11 It would be my opinion if asked 12 that it's unreasonable if the safeguard is 13 available and feasible, I didn't do the 14 analysis of what they should be, that's for 15 Mike Zazula to determine, but my opinion is 16 simply that if it's available and it's 17 feasible, it should have been used rather than 18 relying upon a third option. If they have a 19 hazard because of the design and they're not 20 going to safeguard it, the least they can do 21 is provide adequate warning.</p> <p>22 My opinion in this case is that 23 they failed to provide adequate warning. If 24 they're going to solely on the warning, what</p>	<p>Page 89</p> <p>1 A. The Owner Manual does attempt 2 to address it. 3 Q. Okay. I'm not trying to say 4 there isn't a hazard. I'm acknowledging that 5 what has been said about what can occur if the 6 operator does certain things can occur, and 7 there's a warning about that. I'm not arguing 8 the merits of the warning. I'm saying it's 9 there, so therefore the characteristic is 10 known.</p> <p>11 You're going to say, as I 12 understand it, that if you have that 13 characteristic the first thing you should do 14 is --</p> <p>15 MR. LEVINE: Consider.</p> <p>16 BY MR. HEINOLD:</p> <p>17 Q. -- to consider is to have a 18 design that doesn't present that 19 characteristic. That you're going to leave 20 that fight to other experts; correct?</p> <p>21 A. Yes, I'm going to leave -- I'm 22 not offering a design solution. But the 23 problem is that the design of the bike is 24 unique in that it creates a fire hazard that</p>
<p>1 they needed to do was to put it on the bike 2 like they did in the recall back in the early 3 models.</p> <p>4 Q. So if I understand what you're 5 saying, you're not going to offer any type of 6 alternate design; correct?</p> <p>7 A. I'm not planning on offering 8 alternative design.</p> <p>9 Q. You're not planning on 10 criticizing any specific aspect of this 11 design?</p> <p>12 A. The only thing I would limit my 13 opinion to or plan on providing an opinion is 14 that I've given alternative designs, they 15 should have been the first choice of 16 manufacturers as opposed to choosing a design 17 they had an inherent hazard.</p> <p>18 Q. But that's going to be a 19 general statement --</p> <p>20 A. Yes.</p> <p>21 Q. -- about this motorcycle has 22 features and characteristics that lead to a 23 hazard that the Owner's Manual addresses; 24 correct?</p>	<p>Page 90</p> <p>1 doesn't exist on other types of bikes. And it 2 exists because of the design of the bike. 3 Whether it's the location 4 and/or the material or the manner in which the 5 oil sight glass was manufactured and mounted, 6 I don't know whether it's one or the other or 7 a combination of all three. But the design of 8 this bike creates a unique hazard to this bike 9 that does not occur or exist in my 10 Harley-Davidson, does not occur or exist in 11 the Yamaha bike that Mr. Yazdani had for 20 12 years prior to the BMW.</p> <p>13 Q. Is that opinion -- or excuse 14 me, in that statement are you planning to talk 15 about the specifics of the design in saying 16 the characteristics of this bike create a 17 hazard of fire? Are you going to say and 18 here's what they are?</p> <p>19 A. I'm going to say that Mr. 20 Yeldham testified that the design of this bike 21 and the designed oil sight glass creates a 22 fire hazard.</p> <p>23 Q. I don't think he testified as 24 to that.</p>

<p>1 A. Sure he did.</p> <p>2 Q. What did he say?</p> <p>3 A. Mr. Yeldham testified that if</p> <p>4 BMW R 1150 R motorcycle is left idling in a</p> <p>5 stationary position the oil sight glass cover</p> <p>6 can fail and cause a fire.</p> <p>7 Q. That's the extent of what</p> <p>8 you're going to talk about there?</p> <p>9 A. I mean, he goes on. I'm citing</p> <p>10 the rest of that paragraph as to why this is a</p> <p>11 problem. I mean, he's acknowledging in that</p> <p>12 testimony that there is a hazard associated</p> <p>13 with the oil sight glass cover. And if you</p> <p>14 don't have the oil sight glass cover it can't</p> <p>15 fail, and if you have a dipstick you don't</p> <p>16 have an oil sight glass cover. And therefore,</p> <p>17 from the oil sight glass cover can't fail.</p> <p>18 Q. Okay. So are you going to</p> <p>19 offer an opinion about it should have had a</p> <p>20 dipstick?</p> <p>21 A. No, I am not, but my opinions</p> <p>22 because of the unique characteristics of this</p> <p>23 bike users don't understand or appreciate it</p> <p>24 because it's abnormal, atypical due to the</p>	<p>Page 93</p> <p>1 sight glass, but it's on the right side of the</p> <p>2 crank case that when it's on its left</p> <p>3 kickstand the oil isn't covering the oil sight</p> <p>4 glass.</p> <p>5 And Mark Yeldham testified that</p> <p>6 part of the reason why the oil sight glass may</p> <p>7 fail is because when its on its left kickstand</p> <p>8 the oil, hot oil covers the oil sight glass.</p> <p>9 So to me intuitively that means that if it's</p> <p>10 on the right side and it's not covering the</p> <p>11 oil sight glass it can't cause it to fail in</p> <p>12 that manner.</p> <p>13 Q. Are you planning to offer the</p> <p>14 opinion that the oil sight glass on this</p> <p>15 motorcycle should have been on the right side,</p> <p>16 not the left?</p> <p>17 A. I do not plan on providing an</p> <p>18 alternative design to this bike.</p> <p>19 Q. And I think we've already</p> <p>20 agree, but I want to be clear, you're not</p> <p>21 planning on design that says there should be a</p> <p>22 dipstick instead of an oil sight glass?</p> <p>23 A. I was not planning on offering</p> <p>24 an opinion with respect to alternative design.</p>
<p>1 unique or due to the design of this bike.</p> <p>2 Q. Is there anything else that you</p> <p>3 consider abnormal or unique?</p> <p>4 A. Other than the fact that the</p> <p>5 oil sight glass cover can fail and cause a</p> <p>6 fire, that's the only thing that's relevant to</p> <p>7 this incident.</p> <p>8 Q. Are you aware of any --</p> <p>9 A. Well, I take that back, because</p> <p>10 apparently to prevent the fire due to the</p> <p>11 design BMW wants you to ride away immediately</p> <p>12 and that, again, is a unique or atypical trait</p> <p>13 associated with this bike.</p> <p>14 Q. Anything else?</p> <p>15 A. Not that I can think of at the</p> <p>16 moment.</p> <p>17 Q. Have you done a survey on</p> <p>18 motorcycles?</p> <p>19 A. I've not surveyed every</p> <p>20 motorcycle ever available, but I've looked at</p> <p>21 a lot of bikes over a lot of years and most of</p> <p>22 them have dipsticks.</p> <p>23 Q. Any that don't other than BMW?</p> <p>24 A. Well, the Yamaha has an oil</p>	<p>Page 94</p> <p>1 MR. LEVINE: I'm compelled to</p> <p>2 step in. He has said a number of times that</p> <p>3 he does not intend to present alternative</p> <p>4 design. I just want to clarify that in one</p> <p>5 way. Some people view warnings provided on a</p> <p>6 product as an alternative design. I just</p> <p>7 wanted to mention that so there's no lack of</p> <p>8 clarity.</p> <p>9 And I would ask that we pause</p> <p>10 so I can go do and get those menus.</p> <p>11 MR. HEINOLD: Can I just finish</p> <p>12 this?</p> <p>13 MR. LEVINE: Sure.</p> <p>14 MR. HEINOLD: And I understand</p> <p>15 what you say about the warning issuing</p> <p>16 wasn't -- that's not a problem. I didn't take</p> <p>17 it that way.</p> <p>18 MR. LEVINE: Okay.</p> <p>19 MR. HEINOLD: We do have a</p> <p>20 report full of --</p> <p>21 MR. LEVINE: Of warning</p> <p>22 issues.</p> <p>23 MR. HEINOLD: Of warning</p> <p>24 issues.</p>

<p>1 BY MR. HEINOLD:</p> <p>2 Q. Do you plan -- I want to create 3 a distinction between pointing out 4 characteristics that others have identified, 5 BMW and Mr. Zazula, and you personally 6 criticizing them yourself, do you plan on 7 criticizing the design, not the warning 8 issues, the design of this motorcycle or 9 simply point out based on what others have 10 said that these characteristics lead to this 11 hazard and either should be prevented or a 12 better warning, here's what I think is a 13 better warning?</p> <p>14 A. I think the best way to answer 15 is that I'm relying on Yeldham and Zazula and 16 others to identify the hazard associated with 17 this bike and understanding why that hazard 18 occurs with respect to design. I'm not 19 offering an alternative design solution.</p> <p>20 If one is presented to me, I 21 can have opinions with regard to whether or 22 not that would be the appropriate thing to 23 do. So that gets back into this design work.</p> <p>24 As an ergonomist and product safety expert,</p>	<p>Page 97</p> <p>1 only appropriate, but the correct thing to do.</p> <p>2 Q. Okay.</p> <p>3 - - -</p> <p>4 (Whereupon, a short break was taken at 5 this time.)</p> <p>6 - - -</p> <p>7 BY MR. HEINOLD:</p> <p>8 Q. Okay, I think I get it. You 9 said that this design is unique. Is it your 10 understanding that the BMW air-cooled 11 motorcycles are the only motorcycles capable 12 of fire if the customer leaves it idling for 13 an extended period at a standstill?</p> <p>14 A. Yeah, I'm not aware of any 15 other motorcycles that have the same potential 16 fire risk due to the same issue.</p> <p>17 Q. Did you research that?</p> <p>18 A. I did not research it.</p> <p>19 Q. So you can't point me to any 20 source, literature or anything that says that, 21 to support your understanding; it's just your 22 understanding?</p> <p>23 A. Well, I should take that back.</p> <p>24 Part of the research I did was look at the</p>
<p>1 it's my opinion that if an alternative design 2 exists that's feasible that eliminates the 3 hazard, that is the appropriate thing to do.</p> <p>4 So, if someone presents it, 5 whether it's you or Mr. Hughes, at the time of 6 trial, I'm asked that question, that would be 7 my opinion. I'm not going to opine what the 8 alternative should be or the pros and cons of 9 it or how, you know -- because I don't know.</p> <p>10 For example, they could have 11 used a different glass that doesn't deform at 12 329 degrees. Maybe that solves the problem. 13 I'll leave that to, you know, someone else to 14 determine that. If they use a dipstick 15 instead of the sight glass maybe that fixes 16 the problem. I'll leave that to somebody else 17 to determine.</p> <p>18 If you put it on the right 19 side, if they could have put it on the right 20 side, does that alleviate the problem, I'll 21 let someone else determine that.</p> <p>22 But if there is a design 23 solution that eliminates the hazard, it's my 24 opinion that would have been appropriate. Not</p>	<p>Page 98</p> <p>1 manuals for other motorcycles to see what they 2 identify as hazards associated with their 3 bikes. Like I said, I went through the Yamaha 4 manuals and the Harley manuals and it wasn't 5 identified as being a hazard with those bikes, 6 in the design of those bikes.</p> <p>7 I'm not aware of it through my 8 experience as being an issue with most bikes. 9 This was the first time I became aware that it 10 was an issue with any bike. And certainly, I 11 understand that there could be fires if a 12 motorcycle is left idling near combustibles. 13 So certainly that was something that I 14 understood, but not that a component on the 15 bike would fail and lead hot oil to escape the 16 engine and ignite and start a fire.</p> <p>17 Q. Okay. But other than your 18 general knowledge and the manuals you 19 reference, is there any other basis for your 20 understanding?</p> <p>21 A. I didn't find anything when I 22 was doing the research on oil cool and letting 23 them sit at a standstill when I did the web 24 research.</p>

<p style="text-align: right;">Page 101</p> <p>1 Q. Are those the web pages that 2 you're going to provide me with a copy with at 3 some point?</p> <p>4 A. Well, no, I did a web 5 research. These are just some of the pages 6 that I came across that I printed out as some 7 examples of what I was finding on the web.</p> <p>8 Q. Did you find -- did you search 9 for fires for other manufacturers?</p> <p>10 A. I didn't do a specific search, 11 for example, Kawasaki XYZ bike. I just looked 12 at starting at a standstill, cold weather 13 winterization trends, tips, practices. I 14 looked at, like I said, the manuals for the 15 other bikes to see if they were warning 16 against the practice because of a potential 17 fire hazard and I didn't see any.</p> <p>18 Q. You gave me three manuals, 19 three Yamaha and one Harley, were those the 20 manuals that you said you researched?</p> <p>21 A. I do have a couple more Yamaha 22 manuals that I looked at, and Kawasaki, I 23 think. They're on the disk. So whatever 24 manuals I pulled out I put on the disk.</p>	<p style="text-align: right;">Page 103</p> <p>1 have asked Pat Hughes to ask me to provide my 2 references that were cited in my report. 3 So I put together the 4 references that were cited in my report. In 5 my report I cited specific pages to those 6 manuals. So instead of providing the entire 7 manual I provided those specific pages. On 8 the disk I provided the entire manual for the 9 Yamahas, not for the Harley-Davidson because I 10 didn't have the Harley-Davidson in PDF format, 11 I had hard copy. So I had to scan the pages 12 that I was interested in, if that makes sense.</p> <p>13 Q. This flash drive, what's on it?</p> <p>14 MR. LEVINE: I can tell you 15 because I have it open, or you can ask him.</p> <p>16 MR. HEINOLD: Well, I'm going 17 to ask him.</p> <p>18 MR. LEVINE: Okay.</p> <p>19 THE WITNESS: It's all the 20 documents that I have that are related to -- 21 specifically related to this case.</p> <p>22 BY MR. HEINOLD:</p> <p>23 Q. Anything that's not referenced 24 in your report on the flash drive?</p>
<p style="text-align: right;">Page 102</p> <p>1 There was a number -- I'm sorry 2 to interrupt, but there were a number of 3 years. Like I cited the 2002 models and the 4 XVS 1100 and the Road Star XV 16A. There were 5 multiple model years manuals that I had for 6 either one or both of the bikes. I don't 7 recall offhand.</p> <p>8 Q. It was -- well, you provided 9 like a covering page for two different 10 manuals. Do you think there's something more 11 some?</p> <p>12 A. I think I provided the entire 13 manuals for the Yamahas on the disk. The 14 Harley-Davidson Manual I only provided the 15 cover of the page because I would have had to 16 scan the entire thing.</p> <p>17 Q. Well, what is on -- I got a 18 link from your attorney that had the 19 references which you cited. This flash drive 20 that you're providing that's different; 21 correct?</p> <p>22 A. Yes, I'm sorry. The references 23 were to those specific pages. So I think 24 that's why when I -- I don't recall, you may</p>	<p style="text-align: right;">Page 104</p> <p>1 A. Yes. 2 Q. What? 3 A. Well, for example, the 4 motorcycle pictures that I mentioned earlier. 5 Q. Okay. 6 A. The websites that I printed 7 that I mentioned earlier. And then like I 8 said, the full manuals for several model year 9 Yamahas. There's a Road Star 2000 Manual, 10 E-Star 2010, E-Max 2011, E-Star 2001 and 11 E-Star 2002. I believe they're the complete 12 manuals, not just pages. 13 Q. Anything else on there that 14 wasn't part of your references that I would 15 have received? 16 A. I don't believe so. Other than 17 what we talked about, right, the pictures and 18 the -- 19 Q. Yes, hence the word "else". 20 MR. HEINOLD: That's for me, 21 right? 22 MR. LEVINE: That is for you. 23 BY MR. HEINOLD: 24 Q. Let's talk about, you mentioned</p>

<p style="text-align: right;">Page 105</p> <p>1 the recall motorcycle and the warning on the 2 recall motorcycle.</p> <p>3 A. Okay.</p> <p>4 Q. Did you consider that warning, 5 the on-product portion adequate?</p> <p>6 A. I don't know that I considered 7 that adequate. I don't recall offhand what 8 the warning looked like, number one. So I 9 don't recall if it had the appropriate signal 10 word panel. And two, the language is still a 11 bit -- what's the word I want to use? It's 12 not specific and explicit.</p> <p>13 Q. What page in your report are 14 you referring to?</p> <p>15 A. 11.</p> <p>16 Q. Okay. What is -- I think you 17 said not specific and some other --</p> <p>18 A. Explicit.</p> <p>19 Q. What is not explicit and 20 specific in that language?</p> <p>21 A. Well, my understanding is that 22 BMW intended -- well, you go down to the -- 23 I'm sorry, you go down to the warning in the 24 manual, it says: Do not keep the engine</p>	<p style="text-align: right;">Page 107</p> <p>1 language from the on-product label that was 2 put on the 1997 motorcycle; correct?</p> <p>3 A. I'm sorry, I was reading it and 4 I didn't follow your question.</p> <p>5 Q. Okay. We're on Page 11 of your 6 report, and indented there you have three 7 lines that purport to repeat the language that 8 was on the on-product label as part of that 9 recall?</p> <p>10 A. Yes.</p> <p>11 Q. And just below that you have 12 the language that was part of the warning 13 insert to the Rider's Manual?</p> <p>14 A. Yes.</p> <p>15 Q. And you were comparing the 16 on-product to the Rider's Manual insert just a 17 moment ago?</p> <p>18 A. I was -- yes.</p> <p>19 Q. And you were saying that the 20 on-product label wasn't sufficient, wasn't 21 explicit or specific?</p> <p>22 A. Yes.</p> <p>23 Q. And in contrast you referred to 24 the insert?</p>
<p style="text-align: right;">Page 106</p> <p>1 running while the motorcycle is at a 2 standstill - Risk of overheating and fire. 3 Ride away immediately after starting the 4 engine.</p> <p>5 When you look at the warning 6 that was on the -- they put on the motorcycle 7 itself it says: Avoid increased idle speed at 8 a standstill with choke in use - Risk of 9 overheating and fire.</p> <p>10 They're two different 11 messages. So the one says -- the one that's 12 on bike says: Avoid increased idle speed at a 13 standstill with choke in use. The other one 14 says: Do not keep the engine running while 15 the motorcycle is at a standstill. Ride away 16 immediately after starting the engine.</p> <p>17 So if you want them to ride 18 away immediately after starting the engine you 19 need to specifically and explicitly state that 20 in the warning on the product.</p> <p>21 Q. Okay. Is the warning from the 22 insert -- let's do a little housekeeping.</p> <p>23 We're looking at Page 11 of 24 your report, and in the middle you have the</p>	<p style="text-align: right;">Page 108</p> <p>1 A. Yes.</p> <p>2 Q. Is that specific and explicit?</p> <p>3 A. The information in the insert 4 warning provides more information to 5 understand the hazard and what the issue is 6 and what you need to do to avoid it.</p> <p>7 Q. So is that sufficiently 8 explicit and specific?</p> <p>9 A. I think that it's okay for an 10 on-product warning. My opinion would be that 11 if you're going to include that in your manual 12 that you provide additional information to let 13 the user know what the problem is and why it's 14 a problem. So part of the, you know, reason 15 that you provide information in manuals, 16 warnings in manuals is you have more space to 17 provide more information.</p> <p>18 So as I note in my report on 19 Page 15 that the appropriate thing to do was 20 to repeat the on-product warning in the manual 21 with an explanation of how the fire occurs.</p> <p>22 Q. So the insert in the manual is 23 okay, it's sufficient if you were going to put 24 that on the product?</p>

<p style="text-align: right;">Page 109</p> <p>1 A. I think it's better than what 2 they did provide on the product. 3 Q. Is it sufficient? 4 A. If I was designing it I would 5 say you put the one on Page 14 of my report. 6 I think that's specific and explicit and 7 succinct. 8 Q. Do you understand that -- 9 strike that.</p> <p>10 Do you have an understanding of 11 the issue that led to the recall?</p> <p>12 A. Yes.</p> <p>13 Q. What is it, your understanding?</p> <p>14 A. It looks like there were 15 multiple fires reported to BMW with this 16 particular model motorcycle. They attributed 17 it to the fact that while it was idling at a 18 higher idle than no choke, for example, that 19 the engine was heating up, overheating and 20 igniting the fairing that was adjacent to 21 either the exhaust or the engine itself.</p> <p>22 Q. Okay. So it was the fairing 23 which was igniting rather than the oil sight 24 glass which was deformed?</p>	<p style="text-align: right;">Page 111</p> <p>1 me ask you. Let me start that over. 2 Do you have an understanding 3 whether as a result of the fairing igniting, 4 whether the design of the BMW motorcycles at 5 issue is changed?</p> <p>6 A. It's my understanding that the 7 incident bike in the recall was discontinued 8 at some point in time, and then the 1150, 9 R 1150 took its place and that the R 1150 had 10 three different packages, if you will. The 11 one involved in this incident was like a 12 strip-down version. And then the next two had 13 different levels of front bearings and so 14 forth.</p> <p>15 I think Yeldham testified that 16 there was a potential for the oil sight glass 17 to fail in the 1150 due to the engine 18 overheating at a standstill or the potential 19 for the front fairing and/or wiring harness on 20 the bikes to ignite because of the heat of the 21 exhaust when at a standstill.</p> <p>22 Q. On the subject motorcycle?</p> <p>23 A. Not on the subject motorcycle 24 because it didn't have a -- the front fairing</p>
<p style="text-align: right;">Page 110</p> <p>1 A. I think -- my understanding is 2 that at least from the discussions with NHTSA 3 it was the fairing that was igniting due to 4 its proximity to either the exhaust or the 5 engine. They're pointing it to the exhaust 6 system temperature rising considerably 7 increasing the risk of fire.</p> <p>8 Q. As a result of the fairing, the 9 ignition of the fairing?</p> <p>10 A. The ignition of the fairing, 11 yes.</p> <p>12 Q. This did not involve oil sight 13 glass failures?</p> <p>14 A. That's not what's noted in the 15 NHTSA notification. I don't know if Mark 16 Yeldham testified that the oil sight glass was 17 involved or not. I don't recall offhand.</p> <p>18 Q. Okay. Do you have any 19 information if the oil sight glass was 20 involved in the recall issue?</p> <p>21 A. Not based upon the NHTSA 22 document that I have.</p> <p>23 Q. What is your understanding of 24 what the change in the design would be -- let</p>	<p style="text-align: right;">Page 112</p> <p>1 wasn't near the exhaust, but on the -- there's 2 two other versions of that same bike. I don't 3 remember the names offhand, but they had 4 different levels of the amount of fairing on 5 the front of it.</p> <p>6 Q. When you say the names, what do 7 you mean?</p> <p>8 A. Well, the incident bike was the 9 R 1150 R. My understanding is that there were 10 two versions of that bike. There was the 11 R 1150 R, and I don't know what the letter 12 designations were for those other two models.</p> <p>13 Q. Were you aware of any fires 14 regarding the fairings?</p> <p>15 A. Apparently one of the other 16 models is the R 1150 GS, and I'm aware of a 17 fire as a result of the oil sight glass 18 failing on that bike. There's an R 1150 80V 19 that also was involved in an oil sight glass 20 fire, oil sight glass failure fire.</p> <p>21 And it looks like there's a 22 fire involving an R 11 RT that involved an oil 23 leak. It doesn't say whether the oil sight 24 glass failed or not.</p>

<p>1 Q. These are allegations; correct?</p> <p>2 A. These are a list of claims.</p> <p>3 Q. Right. A claim is an</p> <p>4 allegation?</p> <p>5 A. I don't know if I can agree or</p> <p>6 not agree with that statement.</p> <p>7 Q. Okay. What is that document</p> <p>8 you're looking at?</p> <p>9 A. It's a BMW production document</p> <p>10 summary.</p> <p>11 Q. Prepared by?</p> <p>12 A. Mr. Hughes' office.</p> <p>13 Q. Is that part of what you</p> <p>14 provided me on this flash drive?</p> <p>15 A. It has to be.</p> <p>16 Q. Okay. You hadn't mentioned it</p> <p>17 as one of the -- when I said anything else,</p> <p>18 but it's your book and your --</p> <p>19 A. I think that was part of the</p> <p>20 material reviewed. I'm sorry, I was including</p> <p>21 that under the material available for review.</p> <p>22 Q. Perhaps I didn't notice it. I</p> <p>23 didn't notice it in your materials available</p> <p>24 for review.</p>	<p>Page 113</p> <p>1 purposes of your opinions about whether he</p> <p>2 read those or didn't read those?</p> <p>3 A. To me it doesn't matter if he</p> <p>4 read them or didn't read them several years</p> <p>5 before the fire.</p> <p>6 That's one of the limitations</p> <p>7 of providing information and important</p> <p>8 warnings in the manual is that people are</p> <p>9 likely to overlook it, they're likely to</p> <p>10 forget it, and they're likely not to be</p> <p>11 recalling or thinking about it at the time the</p> <p>12 information is needed. Hence the need for an</p> <p>13 on-product warning.</p> <p>14 Q. Is it important to read the</p> <p>15 Manual?</p> <p>16 A. It depends.</p> <p>17 Q. It depends on what?</p> <p>18 A. It depends on whether it's</p> <p>19 required or not to use and operate the piece</p> <p>20 of equipment or machinery.</p> <p>21 Q. How does someone know whether</p> <p>22 it's required until they read?</p> <p>23 A. Well, two things. One is that</p> <p>24 the product may be like other products that</p>
<p>Page 114</p> <p>1 A. Yeah, I don't -- I didn't</p> <p>2 reference the summary. I just referenced the</p> <p>3 document. Now I forget the question there.</p> <p>4 Q. There wasn't. You finished.</p> <p>5 A. Okay.</p> <p>6 Q. What assumption, if any, did</p> <p>7 you make about whether Mr. Yazdani read this</p> <p>8 manual?</p> <p>9 A. It's my understanding that he</p> <p>10 was provided with the manual for the</p> <p>11 motorcycle when he purchased it used and that</p> <p>12 after getting home -- driving the motorcycle</p> <p>13 home, at some point in time he read it when he</p> <p>14 first got the bike.</p> <p>15 Q. What's your assumption about</p> <p>16 whether he read the pertinent sections of this</p> <p>17 manual that dealt with the warning not to</p> <p>18 leave it at a standstill because it might</p> <p>19 overheat and cause a fire?</p> <p>20 A. Mr. Yazdani testified that he's</p> <p>21 not sure if he read them, and if he read them,</p> <p>22 that it sunk in, if you will. And if he had</p> <p>23 read them, he didn't remember them,</p> <p>24 Q. What are your assumptions for</p>	<p>Page 114</p> <p>1 they've used in the past, and therefore they</p> <p>2 possess the knowledge necessary to use it. Or</p> <p>3 two, the manufacturer has a requirement to</p> <p>4 read it. And then if they have a requirement</p> <p>5 to read it, it may not be all that important</p> <p>6 to read it.</p> <p>7 Q. Is it important to your opinion</p> <p>8 whether Mr. Yazdani read it and understood it</p> <p>9 prior to the accident?</p> <p>10 A. No, it doesn't matter to me.</p> <p>11 My assumption is that either he read it, read</p> <p>12 it and didn't understand it, or read it,</p> <p>13 understood it and forgot it. Either way he</p> <p>14 wasn't thinking about it at the time.</p> <p>15 He had read the manual several,</p> <p>16 I don't know if it's two years or</p> <p>17 year-and-a-half before the fire, but it's very</p> <p>18 common for people to read information in</p> <p>19 manuals and then not have a recollection of it</p> <p>20 or not be thinking about it at the time the</p> <p>21 information is needed.</p> <p>22 Again, this gets back to the</p> <p>23 necessity of on-product warning for a unique</p> <p>24 and atypical hazard.</p>

<p>1 Q. If he did not read, but would 2 have understood it if he had read it, is that 3 important for your opinion? 4 A. I think he testified that had 5 he read it he would have understood it. I 6 think he read it and in his deposition said he 7 understood it. 8 Q. Okay. Is that important to 9 your opinion? 10 A. To me it's irrelevant because 11 he wasn't thinking about it at the time. So 12 that's part of the problem with the warning in 13 the manual, is that people, A, don't read it, 14 B, read it and don't remember it at the time 15 or the location where the information is 16 necessary. 17 Q. If he read it and understood 18 it, forgetting about whether he forgot it or 19 whether he should have been reminded of it, 20 the message in the manual was sufficient at 21 least to be understood as to the activity and 22 the consequences; correct? 23 A. That's what Mr. Yazdani 24 testified, that he understood what the warning</p>	<p>Page 117</p> <p>1 incident. He's not sure if he ever read it. 2 Q. Do you think he would have 3 recalled if the warning had been different? 4 A. I think that had the warning 5 been different it would have been more 6 appropriate, but I don't know that he would 7 have recalled it at the time. 8 Q. So this case boils down to an 9 on-product warning? 10 A. The case boils down to the fact 11 that there was a design defect in the 12 motorcycle, and that instead of fixing it 13 through a design or providing an adequate 14 safeguard they provided an inadequate warning 15 in the manual. 16 Q. And the design defect was what? 17 A. The fact that the oil sight 18 glass can fail when the bike is left at a 19 standstill, which is a customary, foreseeable 20 use of the motorcycle. 21 Q. But you're relying on others to 22 determine that design defect? 23 A. Sure. I'm relying upon Mark 24 Yeldham and his testimony as to what the</p>
<p>1 meant in the manual. 2 Q. So in this case your criticism 3 is not of the information imparted in the 4 manual because it was adequate, was it not? 5 A. Well, I have opinions with 6 regard to whether or not the information that 7 was provided in the manual is adequate or not, 8 but to this case they're irrelevant. 9 The point is that we don't know 10 if Mr. Yazdani read it or not, but he wasn't 11 thinking about it at the time. It was a 12 unique or atypical hazard associated with this 13 motorcycle, and had the proper warning been on 14 the product it would have insured that Mr. 15 Yazdani saw it, read it, understood it both 16 when he got the bike and then when he was 17 started it or planning on starting it a year 18 and a half, two years later. 19 Q. Is it also irrelevant because 20 he said I read it and understood it? 21 A. That's what he testified to. 22 Q. Does that make it irrelevant? 23 A. It doesn't make it irrelevant 24 because he didn't recall it at the time of the</p>	<p>Page 118</p> <p>1 problem was. 2 Q. So in terms of the warning in 3 the manual, let me -- 4 A. I have it here if you would 5 like it. 6 Q. Yes, let's do a little 7 housekeeping. We've been referring to some 8 things. 9 MR. HEINOLD: Let's mark his 10 report as Vigilante-1. 11 - - - 12 (Whereupon, Exhibit Vigilante-1 was 13 marked for identification.) 14 - - - 15 MR. HEINOLD: And we'll mark 16 his Testimony List as Exhibit 2 and his 17 Curriculum Vitae as 3. 18 - - - 19 (Whereupon, Exhibits Vigilante-2, 3 and 20 4 were marked for identification.) 21 - - - 22 BY MR. HEINOLD: 23 Q. I'm going to show you what's 24 been previously marked as Yazdani-1 and now</p>

<p style="text-align: right;">Page 121</p> <p>1 marked as Vigilante-4, which is the cover 2 sheet and two pages of the Rider's Manual that 3 you have the original of and I have the 4 original of. Do we have the same one?</p> <p>5 A. Wait, you have a publication 6 date on that?</p> <p>7 MR. LEVINE: The last page.</p> <p>8 THE WITNESS: 10/2002?</p> <p>9 MR. HEINOLD: Yes.</p> <p>10 THE WITNESS: All right.</p> <p>11 BY MR. HEINOLD:</p> <p>12 Q. I didn't mark down the Bates 13 number.</p> <p>14 A. It's BMW North America 1 15 through BMW North America 2, BMWNA55 and 16 BMWNA64.</p> <p>17 Q. One is 55, I believe that is 18 Page 351, Section 3, Page 351?</p> <p>19 A. That is -- I'm going to say 20 it's 51.</p> <p>21 Q. Okay. Down in the lower 22 right-hand corner of that page, all right, 23 would you read that into the record?</p> <p>24 A. Sure. You want me start from</p>	<p style="text-align: right;">Page 123</p> <p>1 and in a box?</p> <p>2 A. It's not the traditional way to 3 do signal work, but I'm not going to argue 4 about it because it looks like the entire 5 manual is black and white, except for the 6 front page. So they apparently chose to do 7 everything in black and white.</p> <p>8 MR. LEVINE: He does not opine, 9 I don't believe, or criticize the form and 10 substance of the in manual warning; am I 11 correct?</p> <p>12 THE WITNESS: That's correct.</p> <p>13 It wasn't relevant to my opinions.</p> <p>14 MR. LEVINE: He will not be 15 testifying as such at trial. You can do what 16 you want. I just thought that I would clarify 17 that.</p> <p>18 BY MR. HEINOLD:</p> <p>19 Q. But is it -- you say it's 20 irrelevant. My only question is, is it 21 inadequate?</p> <p>22 A. It is inadequate.</p> <p>23 Q. Is adequate or inadequate?</p> <p>24 A. It is inadequate the way it's</p>
<p style="text-align: right;">Page 122</p> <p>1 Risk of fire or the Warning?</p> <p>2 Q. You can start with the 3 Warning.</p> <p>4 A. Warning: Make sure --</p> <p>5 Q. There's a Warning in large 6 letters, all bold, all caps, right, with a 7 Warning placard?</p> <p>8 A. Oh, Warning: Make sure that 9 whether riding or standing still or when the 10 motorcycle is parked no easily flammable 11 material (for example, hay, grass, leaves, 12 clothing or luggage, etc.) can come into 13 contact with the hot exhaust system. Do not 14 allow the engine to idle unnecessarily or for 15 prolonged periods - Risk of overheating or 16 fire. Ride away immediately after starting 17 the engine.</p> <p>18 Q. Okay. Now, the word Warning is 19 large; correct?</p> <p>20 A. It's larger than the print on 21 the page.</p> <p>22 Q. Do you have a criticism with 23 the use of the Warning placard, the use of the 24 word Warning with all capitals and all bold</p>	<p style="text-align: right;">Page 124</p> <p>1 presented on that page.</p> <p>2 Q. Why?</p> <p>3 A. Well, first of all, the section 4 above it starts: Risk of fire, high 5 temperatures at the exhaust system, 6 particularly if the catalytic converter is 7 installed.</p> <p>8 So obviously that's dealing 9 with a different fire cause scenario than the 10 oil sight glass failing. So I would think 11 that it's fairly self evident that the exhaust 12 gets hot and there's a potential for fire.</p> <p>13 So now we have a warning 14 directly underneath that information that 15 deals with, again, stuff, combustibles coming 16 in contact with the hot exhaust system. A 17 person reading it would be expected to read 18 the Risk of fire section above it, get to the 19 warning and think that the whole thing, the 20 whole section was related the exhaust system 21 and the exhaust system being hot.</p> <p>22 So they bury the information 23 related to not allowing it to idle 24 unnecessarily or for long periods within the</p>

<p>1 section dealing with don't let hot stuff 2 contact hot exhaust. So that warning should 3 have been related to don't let it idle 4 unnecessarily for long periods, should have 5 been separated from the other information to 6 make it distinct and to let readers know that 7 it's a different topic, a different specific 8 topic.</p> <p>9 Second, Do not allow the engine 10 to idle unnecessarily or prolonged periods. 11 Neither of those terms, unnecessarily or 12 prolonged, are defined. I think Mark Yeldham 13 testified to that as well. We don't know what 14 unnecessarily or prolonged means and neither 15 does the reader.</p> <p>16 So, for example, Mr. Yazdani 17 testified that he was starting the bike 18 because he didn't winterize it. So obviously 19 it was necessary to him to start the bike 20 because he wasn't winterizing it. A prolonged 21 period is, again, open to interpretation.</p> <p>22 Some people's fires apparently 23 claim they're happening in 10 to 15 minutes. 24 Mr. Yazdani is not sure how long exactly he</p>	<p>Page 125</p> <p>1 reasons why this information on Page 51 of the 2 manual is inadequate. 3 Kind of a higher level issue is 4 that this atypical hazard associated with the 5 failure of the sight glass isn't communicated 6 to the rider or the reader until Page 51. 7 That means they've had 50 pages of other 8 information about the bike that doesn't 9 reference the fact that the oil sight glass 10 can fail and cause a fire if you let it idle 11 for periods of 10 to 15 minutes or longer. 12 And then I did forget to 13 mention too that it doesn't tell you why 14 there's a risk of fire for letting it idle, 15 that being the oil sight glass can fail or the 16 wire harness can ignite. So it would be nice 17 to know, typically in the manual, why they're 18 telling me why not to idle unnecessarily or 19 for a prolonged period of time. 20 Q. Are you finished? 21 A. Yes. 22 Q. Okay. Doesn't the phrase "ride 23 away immediately" help define not allowing the 24 engine to idle unnecessarily or prolonged</p>
<p>1 let the bike run, up to a half hour, maybe a 2 little bit longer. It could have been a 3 little bit less. So we don't know if he had 4 planned on leaving it run for 30 minutes 5 whether the fire would have started within 6 that period of time. If he planned on letting 7 it run for 15 minutes you don't know whether 8 the fire would have started in that time or 9 not. So, it's not specific, it's not explicit 10 and leaves open to interpretation as to what 11 is necessary, what is prolonged.</p> <p>12 And then we have: Ride away 13 immediately after starting engine. That's in 14 direct conflict with other instructions in the 15 manual that tell you have to put it in high 16 choke, hold the button in for some period of 17 time on a cold engine until the engine warms 18 up enough that you can release it so that the 19 bike doesn't stall.</p> <p>20 So that's apparently in direct 21 conflict, unless you expect the rider to be 22 holding the choke start or the choke button in 23 while riding down the street, which I don't 24 think BMW intended. So they're some of the</p>	<p>Page 126</p> <p>1 periods? 2 Is it your testimony that 3 there's no correlation there, there's no 4 assistance in helping the reader understand 5 what unnecessarily or for prolonged periods 6 mean? 7 A. Well, two things. The question 8 is whether or not it's related to Do not allow 9 the engine to idle unnecessarily or for 10 prolonged periods, or is related to the 11 potential for combustible to contact the 12 exhaust. So we don't know based upon the way 13 it's formatted and presented. 14 Second, the ride away 15 immediately after starting the engine is 16 contrary and conflicting with other 17 instructions, and the reality of starting this 18 bike on a cold day. That you can't ride away 19 immediately after starting the engine. You 20 have to go through a warm-up period. So 21 obviously it's in direct conflict with other 22 instructions in the book. 23 Q. Where is the conflict for the 24 other instructions?</p>

<p>1 A. Well, Mark Yeldham testified 2 that on cold days you have to hold the choke 3 in all the way for it to heat up. Otherwise, 4 the engine will stall if you release it.</p> <p>5 So, again, if you have to hold 6 the choke in for a period of time on cold 7 engines to get it not to stall, you can't ride 8 away immediately. It means that you have to 9 let that bike warm up for some period of time.</p> <p>10 Now, Mr. Yeldham also testified 11 that what that period of time is subjective to 12 the user. So if it's subjective to the user, 13 one rider may think that five seconds is okay, 14 another rider may think 10 minutes is 15 necessary. Again, that's the problem with not 16 being specific and explicit, you're allowing 17 the user to interpret subjective terms.</p> <p>18 Q. You agree that -- what are you 19 looking at there?</p> <p>20 A. Oh, this is my summary of Mark 21 Yeldham's testimony.</p> <p>22 Q. That's also on your flash 23 drive?</p> <p>24 A. Yes.</p>	<p>Page 129</p> <p>1 and how to avoid it and what can happen if 2 it's not avoided and why it occurs. 3 Q. For the reasons you stated? 4 A. Yes. 5 Q. How about on Page 60 of the 6 manual. I think it's Bates number 64 on 7 Yazdani Exhibit 1. 8 A. Page 60, right? 9 Q. Yes. Do you consider that 10 inadequate?</p> <p>11 A. Yes. 12 Q. Why? 13 A. Again, first of all, it's on 14 Page 60 of the manual as opposed to being at 15 the start of the manual to alert and inform 16 someone before they read 59 pages of things 17 that are not related to this hazard. 18 Second, the risk of overheating 19 or fire is provided after telling them do not 20 warm up the engine with the motorcycle at a 21 standstill. It would have been more 22 appropriate to say, warning, fire hazard, and 23 then you can explain it, as opposed to giving 24 the consequence of fire as the very last part</p>
<p>1 Q. Would you agree that Mr. 2 Yazdani said when he read it that he 3 understood it?</p> <p>4 A. In his deposition that's what 5 he testified to.</p> <p>6 Q. Yes. And that he understood 7 that he should not leave it at idle at a 8 standstill?</p> <p>9 A. After the fact he certainly did 10 read it and understand it, but he also 11 testified that until the deposition he wasn't 12 aware of why this thing caught fire, which 13 means he didn't understand what he did and how 14 it correlated with the fire. So after the 15 fact in his deposition reading the manual he's 16 testified that he understood it.</p> <p>17 Q. So it's your testimony that 18 this manual is not clear about one, don't 19 leave it at idle at a standstill because it 20 may catch on fire, is that your testimony?</p> <p>21 A. My testimony is it's an 22 inadequate warning. The information provided 23 on Page 51 of the Manual is inadequate to 24 alert and inform a rider as to the fire risk</p>	<p>Page 130</p> <p>1 of that sentence.</p> <p>2 The next sentence says: Ride 3 away immediately after starting the engine, 4 which is consistent with the other page. 5 However, directly under that it says: To 6 avoid overheating the air-cooled engine and 7 possible damage as a result, avoid even short 8 warm-up periods at a standstill. However, it 9 says, period, avoid high engine speeds after a 10 cold start. 11 So, again, it's inconsistent. 12 You have to have high-engine speeds after a 13 cold start because you're supposed to hold the 14 choke in. The choke in is associated with 15 high-engine speeds. Again, if you have to 16 hold the choke in until the engine warms up so 17 it doesn't stall out you can't ride away 18 immediately. So there's a conflict. 19 Also, it doesn't tell you that 20 the oil sight glass can fail and spread or 21 allow hot oil to escape and create a fire. So 22 someone may read that and think that if it's a 23 fire it's because combustible materials are 24 near the exhaust. That's probably why they</p>

<p>1 want me setting this bike -- letting it stand 2 still for a while. If I don't have any 3 combustibles it's not really an issue.</p> <p>4 Q. Are you finished?</p> <p>5 A. I think so.</p> <p>6 Q. So is it your testimony that if 7 someone reads this sentence: Do not warm up 8 the engine with the motorcycle at a 9 standstill, the risk of overheating or fire, 10 with an exclamation point, that they are not 11 going to understand that they should not warm 12 up the motorcycle and engine at a standstill, 13 is that your testimony?</p> <p>14 A. I think that if they read the 15 entire sentence they would understand that's 16 what the sentence had told them. But 17 again --</p> <p>18 Q. They would understand what not 19 to do; correct?</p> <p>20 A. But they would understand --</p> <p>21 Q. Correct?</p> <p>22 A. It's in conflict with other 23 parts of the manual and the testimony of Mark 24 Yeldham, that they can't follow it.</p>	<p>Page 133</p> <p>1 Q. So someone who is going to own 2 and operate a motorcycle they read the 3 statement: Do not warm up the engine with 4 motorcycle at a standstill, risk of 5 overheating or fire, exclamation point, is not 6 going to understand don't leave this idling at 7 a standstill or it might catch on fire, is 8 that your testimony?</p> <p>9 A. No. My testimony is that it's 10 in conflict with other information in the 11 manual, but it's also, this is important too, 12 for the purchaser of a new bike, it's 13 inconsistent and in conflict with the training 14 that the BMW North America dealership is 15 providing him on how to operate the bike. 16 So you've got a statement in 17 the manual that's in direct contrast, conflict 18 with other parts in the manual, their own 19 prior experiences if they've ridden and used 20 motorcycles before, and the training that BMW 21 provided them if they purchased it new from 22 the dealership.</p> <p>23 Q. What is that training?</p> <p>24 A. According to Mark Yeldham</p>
<p>1 Q. The conflict with other parts 2 of the manual meaning the use of the choke?</p> <p>3 A. It tells you start the engine, 4 but hold the choke in until the engine smooths 5 out, go to low choke, and then you can go. 6 Mark Yeldham testified that if 7 you come up high choke too soon the engine 8 will stall. He testified that you have to 9 hold the choke in its high position until the 10 engine smooths out, and that smooth-out 11 process is subjective or the smooth-out point 12 is subjective.</p> <p>13 Q. Okay. So that someone who is 14 operating a motorcycle, can we -- let me step 15 back.</p> <p>16 Can we assume that someone who 17 is going to operate a motorcycle has a basic 18 understanding of how to operate it?</p> <p>19 A. As you mean -- excuse me, do 20 you mean how to start it and ride it, I'm sure 21 they do, unless it's an unfamiliar bike that 22 maybe they're borrowing a friend's or what 23 have you, then may need someone to show them 24 how to start it.</p>	<p>Page 134</p> <p>1 they're trained to show them how to start the 2 bike by holding in the choke until the engine 3 smooths out and then dropping it down to the 4 detent position of the choke switch.</p> <p>5 Q. Are there any parameters on how 6 long that takes in a motorcycle like this?</p> <p>7 A. Well, that's part of what Mr. 8 Yeldham testified to. It's subjective and 9 it's depended upon the ambient temperature and 10 the temperature of the engine. So it may take 11 a shorter amount of time if the machine is 12 warm or if the temperature is warmer. It may 13 take a longer time. It's also subjective to 14 the user. And either you let it go long 15 enough, whatever that time may be because it 16 is very variable, or you come off too soon, 17 and if you come off too soon the engine can 18 stall.</p> <p>19 Q. Are there any parameters on 20 that time?</p> <p>21 A. Mark Yeldham testified it was 22 subjective.</p> <p>23 Q. Subjective. Are there any 24 parameters in your mind?</p>

<p style="text-align: right;">Page 137</p> <p>1 A. I'm relying upon Mark Yeldham. 2 He should know the bike better than me. 3 Q. So could someone have to hold 4 the choke in for two hours? 5 A. I doubt it. 6 Q. Okay. So there has to be some 7 parameter? 8 A. But it could be in warm 9 weather. It could be a warm engine. It might 10 be 10 seconds. It could be a couple minutes. 11 If it's cold weather, cold engine. 12 Now, my Harley-Davidson 13 Sportster had a manual choke. It wasn't on 14 the handlebar. It was a switch underneath 15 the -- or on the side of the engine, I 16 believe, and it would have to stay warmed up 17 for several minutes. In five or 10 minutes if 18 I was taking that bike out in January, which I 19 did often, even when I was a younger rider, to 20 get it to get into the mid point of the choke 21 before I could ride off, otherwise it would 22 stall. It took minutes, 10 minutes, 15 23 minutes to warm up at high choke. 24 It wasn't -- I don't know what</p>	<p style="text-align: right;">Page 139</p> <p>1 and it leaves room for interpretation, which 2 is subjective, which leads to all different 3 kinds of conclusions. Some of them may be 4 right, but some of them are going to be 5 wrong. 6 And that's the problem, 7 warnings aren't supposed to be subjective. 8 They're not supposed to leave open for 9 interpretation. They're supposed to be 10 specific, explicit and they're supposed to be 11 consistent with other information and 12 experiences. If they're not, it leaves people 13 to question the warning and then come up with 14 their own subjective idea of what the warning 15 is supposed to mean and what they're supposed to 16 do. And some people will get it right and 17 some people will get it wrong. And that's not 18 the definition of an adequate warning. 19 Q. Okay. So it's your opinion if 20 someone reads, Do not warm up the engine with 21 the motorcycle at a standstill - Risk of 22 overheating or fire, is going to say it's okay 23 for me to leave this warming up at a 24 standstill for 30 minutes or more? Is that</p>
<p style="text-align: right;">Page 138</p> <p>1 the BMW is. According to Mr. Yeldham it's 2 subjective. But I do know with other bikes 3 that it could take a number of minutes, a 4 period of time for it to warm up. 5 Q. So the basis of your opinion is 6 that the operator of a motorcycle would not 7 be able to tell the difference between the 8 time you have to leave the choke on until it 9 smoothed out and not leaving the motorcycle 10 engine running at a standstill because it 11 might catch on fire? 12 A. Exactly. You're telling him 13 two different things. 14 Q. And the motorcycle rider can't 15 tell the difference between those two things? 16 A. I think he would look at it and 17 say what the heck is this trying to say, 18 because it's inconsistent with my experience, 19 my past experience, and it's inconsistent with 20 the training BMW gave me, and it's 21 inconsistent with other parts of the manual. 22 So is this some type maybe translation error 23 from German. I don't know what the rider is 24 going to think, but it's certainly not clear</p>	<p style="text-align: right;">Page 140</p> <p>1 your opinion? 2 A. I doubt that they will read 3 that and say that allowing it to warm up for 4 30 minutes or more is appropriate. 5 Q. Okay. How about 20 minutes or 6 more, would they say that? 7 A. Probably not 20 minutes. 8 Q. How about five minutes? 9 A. That's where it gets 10 questionable because then some bikes -- some 11 temperatures it's going to take five minutes 12 of warming up on high choke for that engine to 13 smooth out. 14 Q. So do you disregard for your 15 opinions in this case the fact that Mr. 16 Yazdani read the warning and said I understood 17 it, I understood the communication to me what 18 not to do and the consequence of it and I just 19 don't remember reading it? 20 A. Well, I think he testified that 21 reading it in the deposition he understands. 22 That's reading it in the deposition after a 23 fire occurred, after being told what happened 24 he understands what the manual means.</p>

<p>1 He testified that he's not sure 2 if he read that part of the manual or if he 3 read it, if he understood it at the time he 4 read it, or if he read it and either 5 understood it or didn't understand it, but he 6 didn't remember it.</p> <p>7 So asking him after the fact, 8 the Monday morning quarterback, what that 9 statement means is not fair and is not the 10 right way or a valid way to assess the 11 adequacy of that warning.</p> <p>12 Q. Do you believe -- you said that 13 he didn't know whether he would have 14 understood it if he read it back before the 15 fire?</p> <p>16 A. That's what he testified to.</p> <p>17 Q. And that's important to your 18 opinion?</p> <p>19 A. What's important to my opinion 20 is that the warning wasn't on the bike to 21 alert and inform the rider of the unique fire 22 hazard associated with the design of this 23 bike.</p> <p>24 Q. Is it important to your opinion</p>	<p>Page 141</p> <p>1 It's my opinion had he read the 2 manual that it wouldn't have been adequate to 3 inform him of the fire hazard at the time he 4 first owned the bike. Therefore, even if he 5 had read it and understood -- if he had read 6 it he wouldn't have understood what BMW was 7 trying or claiming that the warning is 8 intended to address and intended to say. It 9 would be my opinion that he wouldn't have 10 understood it at that time.</p> <p>11 MR. HEINOLD: Can you read the 12 question back and can you answer it this time. 13 - - - 14 (Whereupon, the court reporter read 15 back the pertinent information.) 16 - - - 17 THE WITNESS: It's the same 18 answer.</p> <p>19 MR. LEVINE: Do you feel he's 20 not answering your question?</p> <p>21 MR. HEINOLD: Yes.</p> <p>22 MR. LEVINE: I heard the 23 question, I heard the answer. Let me break it 24 down and see if I understand. You've asked</p>
<p>1 that you believe Mr. Yazdani would not -- 2 might not have understood the warning if he 3 read it back before the fire?</p> <p>4 A. It would be important to my 5 opinion if Mr. Yazdani testified that he read 6 it in the Manual, he fully understood it, 7 could explain it and was thinking about it at 8 the time of the fire and did it anyway. That 9 would certainly be important to my opinion.</p> <p>10 MR. HEINOLD: Can your read 11 back my question and please answer my 12 question. 13 - - - 14 (Whereupon, the court reporter read 15 back the pertinent information.) 16 - - - 17 THE WITNESS: It's my opinion 18 that Mr. Yazdani did not appreciate the fire 19 hazard associated with his actions, whether 20 it's because he didn't read the manual or read 21 it and didn't understand it, or read it, 22 didn't understand it or understood it and 23 forgot it. He wasn't aware of it at the time 24 of the fire.</p>	<p>Page 142</p> <p>1 him, is it your opinion that it would not have 2 mattered?</p> <p>3 MR. HEINOLD: No. I asked 4 him -- he said he wouldn't have understood it 5 and that he testified -- strike that. I'll 6 start over.</p> <p>7 He said that Mr. Yazdani 8 testified that he wouldn't have understood it 9 back then or might not have understood it back 10 then. And I said: Is it important to your 11 opinion that he wouldn't have understood it? 12 That's a simple question.</p> <p>13 MR. LEVINE: First off, is it 14 accurate that the witness here, Dr. Vigilante, 15 stated that he did not understand it, would 16 not have understood it, might have not 17 understood it, because you threw those in a 18 little bit softly there?</p> <p>19 In other words --</p> <p>20 MR. HEINOLD: I didn't throw 21 them in.</p> <p>22 MR. LEVINE: Bear with me, I'm 23 going to get you your answer that you're 24 looking for, I promise you. You put that</p>

<p>1 supposition in in the beginning of your 2 question: Based upon the fact that you have 3 testified Mr. Yazdani might have not have 4 understood, did not understand it or would not 5 have understood it.</p> <p>6 MR. HEINOLD: I didn't ask the 7 question that way, Ken.</p> <p>8 MR. LEVINE: I'm going to help 9 you here. I'm promising you. Maybe I need to 10 hear it again. I apologize.</p> <p>11 MR. HEINOLD: Go ahead, ask 12 whatever you want to do.</p> <p>13 MR. LEVINE: No. I was asking 14 her what your question was because I don't 15 want to change your question.</p> <p>16 MR. HEINOLD: I'll start over.</p> <p>17 MR. LEVINE: I promise you I'm 18 not going to let him avoid you.</p> <p>19 BY MR. HEINOLD:</p> <p>20 Q. Do you believe Mr. Yazdani said 21 that he would not have understood that warning 22 if he had read it back before the fire?</p> <p>23 A. What I testified to, and I'll 24 read my summary of his testimony, he read the</p>	<p>Page 145</p> <p>1 should I abide by it or comply with it.</p> <p>2 Q. Okay. When you testified 3 earlier you said he testified he didn't 4 understand it, he didn't know if he understood 5 it. You just read that and you used the word 6 registered and transformed registered into 7 lack of understanding rather than perhaps it 8 didn't sink in, perhaps he forgot rather than 9 understand. We've been sitting here talking 10 about whether this is understandable or not.</p> <p>11 I want to know -- after that 12 description of why I'm asking you this 13 question, I want to know this: Is it 14 important to your opinion that he did not 15 understand it prior to the accident if he read 16 it?</p> <p>17 A. Again, my understanding is he 18 testified he was not aware of the fire hazard 19 prior to the incident. He testified he 20 doesn't recall whether he read the manual -- 21 excuse me, that part of the manual, if he read 22 it, if it didn't register --</p> <p>23 MR. LEVINE: I'm going to 24 interrupt. You don't need to keep repeating</p>
<p>1 manual, but he does not recall if he read the 2 manual, if he -- excuse me, I'll start over.</p> <p>3 He read the manual, but he does 4 not recall if he read the warning and didn't 5 register it or if he did not read the 6 warning. So his testimony is he doesn't know 7 if he read it, and if he read it, it didn't 8 register to him. So that's my understanding.</p> <p>9 So there's no testimony, 10 there's no evidence to state that he either 11 read it and that if he read it, he understood 12 it in the manner in which BMW North America is 13 claiming they intended it to mean.</p> <p>14 So it's possible, it certainly 15 is possible that Mr. Yazdani read that 16 language or part of that language and took it 17 to understand the same thing that other people 18 would understand by reading the entire 19 manual. And based upon prior experiences, 20 that it's not consistent with the way you're 21 supposed to use the bike, and that it's in 22 conflict with the way you're supposed to use 23 the bike. And if it's in conflict, how valid 24 is the statement. And if it's not valid, why</p>	<p>Page 146</p> <p>1 what Mr. Yazdani did or didn't testify to. I 2 appreciate that's part of your answer, but I 3 sit here and listen to you repeating 4 exactly -- we have read it. We've seen it, 5 Bill. The question was entirely different. 6 So he's asking you whether or 7 not his opinion as expressed there, and 8 correct me if I'm wrong, are important or 9 unimportant to your opinions here? But if you 10 want to correct me, go ahead.</p> <p>11 THE WITNESS: Yeah, it's not 12 important to my opinion if -- I don't want 13 to -- I'm not going to sit here and say that 14 Mr. Yazdani read that manual and understood it 15 the way BMW is intending it to mean at this 16 point in time. So, that's number one, I'm not 17 going to say that I agree with that.</p> <p>18 So based upon -- what I read 19 through his deposition, I don't think that's 20 correct that he understood the message that 21 BMW was intending to convey. But if he did, 22 understood that line when he read that manual 23 when he first got the bike, it didn't sink in, 24 it didn't register, he wasn't aware of it and</p>

<p style="text-align: right;">Page 149</p> <p>1 he sure wasn't thinking about it or aware of 2 it at the time of the incident. 3 And that's because A, the 4 manual is inadequate and the information in 5 the manual is inadequate. And B, providing 6 the information only in the manual is 7 inadequate and inappropriate. 8 I'm starting to get a little 9 big tongue-tied because I'm starving. So it 10 might help if I eat, take a break. 11 MR. HEINOLD: Let's take a 12 break. 13 - - - 14 (Whereupon, a short break was taken at 15 this time.) 16 - - - 17 BY MR. HEINOLD: 18 Q. Do you believe the owner of a 19 motorcycle has the responsibility to 20 understand the motorcycle and its features in 21 order to own and operate it safely? 22 A. To a reasonable degree, sure. 23 Q. Okay. How to operate it? 24 A. Sure.</p>	<p style="text-align: right;">Page 151</p> <p>1 for the vehicle as opposed to understanding 2 all of its nooks and crannies. 3 Q. Are there parts that it's okay 4 to skip? 5 A. Sure. 6 Q. What parts are those? 7 A. Things that you're not 8 interested in or that you think you may have 9 already known. I think these are reasonable 10 things that people do quite often. 11 Q. When it says "Warning, Risk of 12 fire", is that okay to skip? 13 A. It depends on where it's 14 presented, how it's presented. 15 Q. Well, I mean, let me be clear. 16 Is it okay not to read it? Do you justify the 17 decision that an owner -- that a manual -- 18 that an owner would look at the Rider's Manual 19 and see it said Warning, and then doesn't read 20 what the warning is? Do you justify that? 21 A. Again, it depends upon how it's 22 presented, where it's presented, why it's 23 presented and what other information it's 24 presented with.</p>
<p style="text-align: right;">Page 150</p> <p>1 Q. Its features and 2 characteristics? 3 A. To a reasonable degree. 4 Q. How to maintain it, service it? 5 A. To a reasonable degree. 6 Q. What the safety features are? 7 A. To a reasonable degree. 8 Q. Do you believe the owner of a 9 motorcycle has the responsibility to read the 10 Owner's Manual? 11 A. I don't believe they have the 12 responsibility to study an Owner's Manual. 13 They should read the manual, but I don't think 14 they have the responsibility to study it. 15 Q. What's the difference between 16 reading and studying in your mind? 17 A. The ability to extract every 18 piece of information the manufacturer provides 19 in the manual would be under the definition of 20 studying as opposed to reading it in a 21 leisurely fashion where you are collecting the 22 information that you're interested in and 23 perhaps skipping parts that you're not 24 interested in, and generally getting a feel</p>	<p style="text-align: right;">Page 152</p> <p>1 Q. I'm not talking about not 2 noticing it. Let's be clear on my question. 3 Let's say there's a warning and 4 it says Warning, are you saying it's okay for 5 that person not to read what's under that 6 Warning? I'm talking about reading. 7 A. Again, it depends upon the 8 information that it's presented with, how it's 9 presented, where it's presented, why it's 10 presented. 11 So, for example, if there's a 12 picture of a helmet and it says Warning, 13 somebody is going to infer that's probably 14 going to say, Warning, don't ride a motorcycle 15 without a helmet. So there's a good chance 16 people are going to skip it. 17 Q. Is that okay? 18 A. Absolutely. They already have 19 the information or believe they have the 20 information. So the question is, again, how 21 you're presenting the information to make sure 22 that if it's important, if it's urgent, that 23 it's set off and it's identified as such. 24 Making the warning the same as</p>

<p>1 all the other warnings on the page, by the 2 time I read all the other warnings I'm like 3 this is ridiculous, I don't need to know this, 4 or this isn't relevant, or I already knew 5 this, why should I read the fifth warning on 6 the page. That's a reasonable reaction of a 7 person.</p> <p>8 So if it's unique and specific 9 to this bike it needs to have greater 10 prominence in the book and where it's 11 presented, not on Page 51, at the front of the 12 manual, and how it's presented. Not the same 13 type of signal word as the other four warnings 14 that are on the page that may or may not be 15 relevant to the information I need as a 16 rider.</p> <p>17 So it just depends on how it's 18 presented, where it's presented, why it's 19 presented and what other information it's 20 presented with.</p> <p>21 So here's a good example, on 22 Page 49: Warning, do not read -- excuse me, 23 do not ride the motorcycle after drinking 24 alcoholic beverages. I'm done reading. As a</p>	<p>Page 153</p> <p>1 anything combustible get near my exhaust 2 because it gets hot. Do I need to read the 3 rest of that to understand, no. 4 So that's the problem with the 5 way this particular warning is presented, 6 because it's in the information that's readily 7 observable, readily known. So there's no 8 reason for the user to continue reading down 9 to that third sentence that says: Oh, by the 10 way, do not allow the engine to idle 11 unnecessarily or for prolonged periods. 12 Q. So we're clear, it's okay with 13 you if the owner of a motorcycle doesn't read 14 the warning on Page 51 that we're talking 15 about, yes or no? 16 I'm not asking for reasons why 17 someone might not. I'm asking you, a warning 18 experts, is it okay -- are you saying yes, 19 it's okay, you don't have to read that? 20 A. It is foreseeable and 21 reasonable for a person not to read an 22 inadequately presented warning. So the fact 23 that it's inadequate on Page 51, 53 would be 24 reasonable for a person not to read it.</p>
<p>Page 154</p> <p>1 reasonable adult I know I should not be doing 2 that. Do I need to read the rest of that 3 paragraph, no. Is it reasonable to expect 4 that somebody is going to skip the rest of 5 that paragraph, absolutely. 6 If there is something down here 7 at the bottom of that paragraph that's not 8 really related to the top of it, but 9 particularly unique or important to this bike, 10 shouldn't it have been presented in a 11 different manner, absolutely.</p> <p>12 Q. Let's talk about Page 51 where 13 on the right-hand side under Risk of -- on a 14 page it says: Important notes, where it says 15 Risk of fire, and then these big bold warning 16 placard, is it okay not to read that warning? 17 A. Well, again, as I mentioned 18 earlier, it's very possible and likely that 19 somebody is going to read, Risk of fire, high 20 temperatures occur at exhaust system, 21 particularly in a catalytic converter. 22 Warning, making sure that whether riding or 23 standing still no easily flammable material, I 24 understand what they're saying, don't let</p>	<p>Page 156</p> <p>1 Q. Is it okay with you? 2 A. It's not okay with me, but it's 3 not okay for the manufacturer to present 4 important critical safety information in an 5 inadequate fashion that encourages people not 6 to read it. 7 Q. How about on Page 60 under 8 Warning where it says: Do not warm up the 9 engine with the motorcycle at standstill - 10 Risk of overheating and fire, that's right 11 upfront, isn't it? 12 A. It's on Page 60. 13 Q. It's right under Warning, 14 right? 15 A. It is under Warning. 16 Q. Let me ask you a question: Do 17 you think the length of manuals in today's 18 world has anything to do with guys like you 19 who criticize warnings all the time and make 20 the manufacturers add a lot of warnings like 21 don't ride a motorcycle after you're drinking? 22 A. I don't know about don't ride a 23 motorcycle after drinking, but I do know 24 manufacturers choose to rely upon an</p>

<p style="text-align: right;">Page 157</p> <p>1 Instruction Manual to mitigate the design 2 defect with the motorcycle, it's inappropriate 3 and it leads to long manuals.</p> <p>4 So if they had fixed it from 5 the beginning or provided an adequate 6 safeguard, there wouldn't be a need to add it 7 to the manual, maybe cut a page-and-a-half out 8 of it.</p> <p>9 Q. So human factors experts have 10 no role in the length of the modern day 11 manual?</p> <p>12 A. Maybe litigation attorneys.</p> <p>13 Human factors experts would say fix the 14 design, provide the safeguard, do not rely 15 upon a warning. Particularly they would say 16 do not rely upon a warning in a manual.</p> <p>17 As a human factors professional 18 my preference is to fix the design. When I 19 worked for the IBM Corporation I worked with 20 the engineers to fix the design before we 21 relied upon a warning in a manual around the 22 product. Eliminating it through design is 23 always the first and best option. Providing a 24 guard is the second and second best option.</p>	<p style="text-align: right;">Page 159</p> <p>1 riders. So it means everybody is wrong, or 2 does it mean BMW is wrong for depending upon a 3 warning on Page 60 of their manual to fix a 4 design defect.</p> <p>5 Q. What's the point of a manual 6 then?</p> <p>7 A. The point of a manual is to say 8 here are the features of the bike, if you need 9 to know them because it's not apparent in the 10 way the bike is presented then read the 11 manual.</p> <p>12 From a human factors 13 standpoint, again, you make products easy to 14 use, intuitive to use. If you make them easy 15 to use and intuitive to use and you design out 16 the hazards to provide adequate safeguard the 17 need for a manual becomes less and less and 18 less. The goal of the human factors engineers 19 is to make manuals as short as possible by 20 making the design intuitive and easy to use as 21 possible.</p> <p>22 Q. Do you have a list that you use 23 when you advise clients or make 24 recommendations to tell the owner of a product</p>
<p style="text-align: right;">Page 158</p> <p>1 Relying upon a manual means you've already 2 given up on your design, and that to me si 3 inappropriate.</p> <p>4 Q. Go back to Page 60.</p> <p>5 A. Sure.</p> <p>6 Q. You criticized this warning 7 because it was on Page 60. My question is: 8 Are you saying it's okay for the owner of this 9 type of motorcycle not to read that warning, 10 not to gain the information that it provides? 11 Yes or no?</p> <p>12 A. There's plenty of reasons why 13 it would okay for the owner of a motorcycle 14 not to read this part of the manual. And it 15 was foreseeable to BMW that a rider wouldn't 16 read this part of the manual, and if they 17 didn't read this part of the manual they would 18 have gotten the information presented.</p> <p>19 Q. So if Mr. Yazdani didn't read 20 this manual, read this part of the manual on 21 Page 60, you're saying that's okay, good job, 22 Mr. Yazdani, good job?</p> <p>23 A. I would say his behavior is 24 consistent with the majority of consumers and</p>	<p style="text-align: right;">Page 160</p> <p>1 what warnings he should or shouldn't read in 2 the manual, which ones are okay not to read?</p> <p>3 A. Nope.</p> <p>4 Q. Are there some warnings that 5 are okay not to read? Just forget about why 6 they might not, are there warnings that are 7 okay not to read?</p> <p>8 A. Again, it's my opinion that a 9 reasonable rider, a reasonable person would be 10 reasonable in not reading an inadequate 11 warning or inadequate information that's 12 presented in an inadequate fashion.</p> <p>13 Q. Tell me which warnings are okay 14 not to read.</p> <p>15 A. Well --</p> <p>16 Q. You just bought a motorcycle. 17 Which warnings are okay not to read?</p> <p>18 A. If I bought a motorcycle and I 19 went through my rider training with BMW --</p> <p>20 Q. I'm not asking that, sir. And 21 we can go around and around, and I can do the 22 same thing we've done and I'll ask them over 23 and over again. You've got your speech, I get 24 it. I'd like you to answer my question.</p>

<p style="text-align: right;">Page 161</p> <p>1 Are there warnings that are 2 okay not to read, yes or no? 3 A. So as I was saying -- 4 Q. I'll tell you what, answer me 5 yes or no and then give whatever explanation 6 you want.</p> <p>7 MR. LEVINE: I'm going to 8 object to this question, because if you were 9 to hear your own question, you're saying -- 10 you haven't self defined it yourself, are 11 there warnings okay not to read?</p> <p>12 MR. HEINOLD: I don't need any 13 more definition. Are you objecting to the 14 form?</p> <p>15 MR. LEVINE: I'm objecting to 16 the form because you can have 17 different 17 meanings. So when he answers it you're not 18 even going to know what --</p> <p>19 MR. HEINOLD: 17 different 20 meanings to what?</p> <p>21 MR. LEVINE: It could have been 22 warnings that are in a product, warnings that 23 are in a manual.</p> <p>24 MR. HEINOLD: I said in a</p>	<p style="text-align: right;">Page 163</p> <p>1 manual? When someone buys this bike, do they 2 get you too and say hey, do I have to read 3 this warning?</p> <p>4 My question is: Somebody buys 5 a product, they get the manual. Are there 6 warnings that they don't have to read?</p> <p>7 You just said yes, there are 8 warnings. So now I want to which ones they 9 are. How do you determine which ones they 10 are? How does he determine which ones they 11 are?</p> <p>12 A. As I was trying to explain 13 generally, if it's an inadequate warning it's 14 okay not to read it because that's what you 15 would reasonably expect from a reasonable 16 person.</p> <p>17 There are other reasons why you 18 wouldn't read a warning. So, for example, 19 maybe there's a section of the manual that 20 doesn't apply to your bike or your product, 21 this bike is for. This bike is for R 1150s 22 and R 850s. It may be a warning that's 23 presented in part of the manual that something 24 you're not going to deal with.</p>
<p style="text-align: right;">Page 162</p> <p>1 manual. I'll start over.</p> <p>2 MR. LEVINE: In this manual.</p> <p>3 BY MR. HEINOLD:</p> <p>4 Q. You just bought this 5 motorcycle, are there warnings that are okay 6 not to read?</p> <p>7 A. I think, again, my opinion is 8 it's --</p> <p>9 Q. Can you answer me yes or no?</p> <p>10 Can we get that? Answer me yes or no and --</p> <p>11 MR. LEVINE: I would ask that 12 the witness answer the question and then 13 explain his answer.</p> <p>14 THE WITNESS: Yes, it's okay 15 not to read inadequate warnings.</p> <p>16 BY MR. HEINOLD:</p> <p>17 Q. How does the reader know that 18 they're inadequate if he hasn't read it?</p> <p>19 A. I think that it would be up to 20 me to decide whether it's inadequate or not 21 and it would be consistent with the person's 22 behavior as to whether they read it or not as 23 to whether it was inadequate or not.</p> <p>24 Q. But do you come with the</p>	<p style="text-align: right;">Page 164</p> <p>1 So, for example, there's a 2 headlight basic setting in here. Maybe I'm 3 not planning on setting my own headlights. 4 I'll let the garage and the mechanic do that. 5 So why am I going to read it.</p> <p>6 You know, there's different 7 features of the bike that I may not be 8 interested in, don't planning on using them. 9 Therefore, the warning wouldn't be relevant to 10 me and that would be okay not to read it. 11 There are plenty reasons of why it would be 12 okay not to read a warning.</p> <p>13 Q. Okay. I just bought a bike, I 14 want you to assume that.</p> <p>15 A. Okay.</p> <p>16 Q. I picked up this manual. Is it 17 okay for me not to read the warning on Page 60 18 that says: Warning, do not warm up the engine 19 with the motorcycle at a standstill - Risk of 20 overheating and fire? Is it okay for me not 21 to read that?</p> <p>22 A. I think it would be foreseeable 23 that somebody would not read it, and it 24 wouldn't be okay because they're not getting</p>

<p>1 important safety information, but it's not 2 their fault that they're not reading it.</p> <p>3 Q. If I came to you and said hey, 4 Bill, I just bought a manual, should I read 5 it, what would you tell me? Yes or no?</p> <p>6 A. I would think as a manufacturer 7 I would say I'm providing --</p> <p>8 Q. That wasn't my question. I'm 9 your neighbor, Bill. Hey, Bill, I just bought 10 this, should I read this manual or not, yes or 11 no?</p> <p>12 A. Yes, I would say if you find it 13 interesting go ahead and read it. If you 14 think you can ride a bike without it then 15 don't read it.</p> <p>16 Q. On Page 10 -- I'm sorry, Page 17 12 of your report at the bottom flowing over 18 onto Page 13, you list 10 items that should 19 have been included in this manual regarding 20 the fire as I -- I'm sorry, the risk of fire; 21 is that correct?</p> <p>22 A. I don't know what you're asking 23 me.</p> <p>24 Q. Look at Page 12.</p>	<p>Page 165</p> <p>1 would have to know 1 through 10. 2 So without adequate warning you 3 would have to hope that the rider knows 1 4 through 10. As the next paragraph states, 5 most people are not going to know or have 6 information all of 1 through 10, therefore, 7 they're not going to appreciate the fire 8 hazard associated with the design defect 9 without adequate warning.</p> <p>10 Q. So this doesn't have to be in 11 the manual?</p> <p>12 A. I never said it had to be in 13 the manual.</p> <p>14 Q. Well, that's the way I read it. 15 That's why I'm here. That's why I get to ask 16 you questions, to clarify. It's a great 17 system.</p> <p>18 So what is the point of these 19 10 things? What is it you're telling us 20 should be done with this information? How is 21 it imparted to the rider?</p> <p>22 A. Well, I don't know that it's 23 necessarily to impart all of it to the rider. 24 What I'm simply saying is that if you're not</p>
<p>1 A. Yes.</p> <p>2 Q. Do you see at the bottom Item 1 3 through 9?</p> <p>4 A. Yes.</p> <p>5 Q. Please turn to Page 13.</p> <p>6 A. Okay.</p> <p>7 Q. Do you see the top, Item 10?</p> <p>8 A. Yes.</p> <p>9 Q. What are those?</p> <p>10 A. As it states in there, it's 10 11 things that a person would need to understand 12 to foresee a potential fire hazard associated 13 with warming up the engine with motorcycle at 14 a standstill without adequate warning.</p> <p>15 Q. So is it your testimony that 16 these 10 things need to be in the manual?</p> <p>17 A. No.</p> <p>18 Q. What's the purpose of these 10 19 things?</p> <p>20 A. Well, I think it's pretty 21 explicit in the paragraph: To foresee the 22 potential fire hazard associated with warming 23 up the engine with the motorcycle at a 24 standstill without adequate warning the rider</p>	<p>Page 166</p> <p>1 going to provide adequate warning and if you 2 want the rider to appreciate the hazard, they 3 would need to know all of these 10 things. 4 And it's very unlikely that a rider would know 5 all of these 10 things, and therefore, they 6 wouldn't be aware or appreciate the hazard.</p> <p>7 Q. So what is the adequate 8 warning?</p> <p>9 A. I give the adequate warning on 10 Page 14 of the report.</p> <p>11 Q. And that's the placard at the 12 bottom? Is that the sticker for an on-product 13 warning?</p> <p>14 A. That is the example on-product 15 warning that I suggest should have been on the 16 motorcycle.</p> <p>17 Q. Okay. What should have been in 18 the manual?</p> <p>19 A. As I state on the top of Page 20 15, the warning itself should have been 21 repeated in the manual along with the 22 explanation of how the fire occurs. For 23 example, oil temperature increases to an 24 elevated level causing the oil sight glass to</p>

<p style="text-align: right;">Page 169</p> <p>1 fail and allow hot oil to escape the engine or 2 heat from the exhaust headers can ignite the 3 body work or wiring harness.</p> <p>4 Q. Is that the language that you 5 are proposing should have been in the manual?</p> <p>6 A. Sure.</p> <p>7 Q. And is it just that where -- I 8 mean, I want to know precisely what it looks 9 like.</p> <p>10 A. Well, I give you precisely what 11 the warning looks like on the illustration --</p> <p>12 Q. That's the on-product. It's 13 the same thing?</p> <p>14 A. I said it should be repeated in 15 the manual.</p> <p>16 Q. So that should be repeated in 17 the manual and then what? How do you add this 18 e.g.?</p> <p>19 A. You can put it right under it.</p> <p>20 Q. And that's the language you 21 would use?</p> <p>22 A. Sure.</p> <p>23 Q. Now I understand. Why is it 24 important to have something different in the</p>	<p style="text-align: right;">Page 171</p> <p>1 adequate safeguard, such as the fan, what have 2 you, like Mike Zazula talked about.</p> <p>3 If they weren't going to do 4 that, the least they could have done is put 5 the warning in Illustration 1 on Page 14 of my 6 report on the motorcycle itself and then 7 repeated the warning in the manual.</p> <p>8 Q. Is it sufficient if that 9 warning is simply repeated without further 10 explanation?</p> <p>11 A. I think it would be best 12 practice to include the further information.</p> <p>13 Q. Is it sufficient, just the 14 warning?</p> <p>15 A. I think it's sufficient with 16 just the warning on the product.</p> <p>17 Q. Is it sufficient with just the 18 warning in the manual?</p> <p>19 A. No. It needs to be on the 20 product.</p> <p>21 Q. Let's assume the warning is on 22 the product, is it sufficient to have that 23 same warning in the manual without more?</p> <p>24 A. I think you could put it in the</p>
<p style="text-align: right;">Page 170</p> <p>1 manual than on the product?</p> <p>2 A. I didn't say it was.</p> <p>3 Q. All right.</p> <p>4 MR. LEVINE: He said he didn't 5 say that.</p> <p>6 MR. HEINOLD: I'm starting a 7 new question. My question, as I recall, why 8 is it important to have it more in the manual, 9 and he said it's not.</p> <p>10 THE WITNESS: No. I said I 11 didn't say that. You said that. I didn't say 12 that.</p> <p>13 BY MR. HEINOLD:</p> <p>14 Q. Is it important to have more in 15 the manual?</p> <p>16 A. I don't know that it is, but 17 certainly you can.</p> <p>18 Q. Let's be really clear then.</p> <p>19 What is it that needs to be on this motorcycle 20 in order to make it safe for its intended use?</p> <p>21 A. They need to fix the design 22 defect, make it safe for its intended use. If 23 they weren't going to provide or eliminate the 24 hazard for design they need to provide an</p>	<p style="text-align: right;">Page 172</p> <p>1 manual and you can add the information as best 2 practice or you can leave it off. I don't 3 think it's going to make that big of a 4 difference.</p> <p>5 Q. So it's sufficient not to add 6 the additional information that's at the top 7 of Page 15?</p> <p>8 A. All right. I think -- it's 9 given the placement in the manual you should 10 provide the information at the top of Page 15 11 in the manual. I think it provides additional 12 information for the user to understand what 13 the issue is, what the hazard is and why it's 14 occurring, increasing their understanding of 15 the event and increasing the propensity to 16 follow the warning.</p> <p>17 Q. So the understanding of the 18 event is not sufficient in a manual if you 19 just put the warning illustration, repeat that 20 in the manual?</p> <p>21 A. I'm not sure what you're asking 22 me.</p> <p>23 Q. I'm having trouble 24 understanding what you're telling me. I</p>

<p>1 really don't mean to be repetitive, but the 2 warning that's an illustration on Page 14 3 should be on the motorcycle?</p> <p>4 A. I'm sorry, my opinion is that 5 the warning that's on Page 14, and it's under 6 Illustration 1, is an example of on-product 7 warning, meaning the ANSI Z535.4 2002 criteria 8 for on-product safety warnings, BMW North 9 America should have presented on the bike.</p> <p>10 Q. Okay. And that is sufficient.</p> <p>11 They don't need to put on the bike an 12 explanation about the oil temperature 13 increases elevated level causing the oil sight 14 glass to fail; correct?</p> <p>15 A. They don't need to put that 16 information on the bike.</p> <p>17 Q. Okay. Now I want to talk about 18 the manual. I want to assume this warning is 19 on the bike, okay?</p> <p>20 A. Okay.</p> <p>21 Q. If we put that placard, that 22 warning label that you have just said is 23 satisfactory to put on the product, if there 24 is -- if that is all that is in the manual on</p>	<p>Page 173</p> <p>1 words, and you may not have understood the 2 question, he said if the warning is on the 3 bike and the warning is in the manual, do you 4 also require, correct me if I'm wrong, that 5 the explanation following the warning is also 6 in the manual? I think that was your 7 question.</p> <p>8 MR. HEINOLD: Yes.</p> <p>9 THE WITNESS: I would say yes 10 because there's no reason not to put it.</p> <p>11 BY MR. HEINOLD:</p> <p>12 Q. In your report you criticize 13 BMW NA because -- you talk about you can't 14 rely on second purchasers getting the manual; 15 correct?</p> <p>16 A. Okay. I think it's a true 17 statement.</p> <p>18 Q. But is that relevant to this 19 case?</p> <p>20 A. What do you mean?</p> <p>21 Q. Because Mr. Yazdani got the 22 manual and he received that?</p> <p>23 A. Yeah, it's not really relevant 24 to what Mr. Yazdani did with respect to</p>
<p>1 the top, is that sufficient for the manual, or 2 do you require this additional information to 3 be in the manual to make the bike safe for its 4 intended use? Require is my word.</p> <p>5 A. So I guess I'm having a problem 6 with make it safe. The manual is really an 7 afterthought. I mean, you put it on the bike 8 so people see, read it and understand it, but 9 you put it in the manual for completeness 10 sake. Whether or not you put the explanation 11 of it for best practices, yes, it should be 12 there. If you don't put it, is it going to 13 make that big of a difference, probably not, 14 because if they're not getting it on the bike 15 they're really not likely to get it from the 16 manual.</p> <p>17 You know, as we had this 18 discussion earlier about whether or not --</p> <p>19 MR. LEVINE: One second. He 20 asked you when answering that question to 21 assume that the warning was on the bike.</p> <p>22 Am I right about that?</p> <p>23 MR. HEINOLD: Oh, yes.</p> <p>24 MR. LEVINE: So, in other</p>	<p>Page 174</p> <p>1 whether or not the motorcycle was defective 2 and whether or not BMW failed to provide 3 adequate warning.</p> <p>4 Q. We can dance around this, sir.</p> <p>5 You know I'm trying to be respectful, and 6 personally, I think you're avoiding my 7 questions. And we can just do some things 8 really simply and get to the nuggets of what 9 we want.</p> <p>10 My question is this: You have 11 criticized my client for relying on -- strike 12 that. You criticized my client because they 13 may not -- a second purchaser, used purchaser 14 may not get the manual, correct?</p> <p>15 You rendered that criticism in 16 your report. That is easy to answer yes or 17 no. Did you or did you not render that 18 criticism in your report?</p> <p>19 A. What I said in the report is 20 that BMW couldn't rely upon secondhand users 21 having the manual.</p> <p>22 Q. Is that relevant to this case?</p> <p>23 And I ask that question because Mr. Yazdani as 24 a secondhand user received the manual, did he</p>

<p>1 not?</p> <p>2 A. You just asked me two</p> <p>3 questions. So which one do you want me to</p> <p>4 answer?</p> <p>5 Q. Both.</p> <p>6 A. Is it relevant to this case,</p> <p>7 yes. Did Mr. Yazdani get a manual with the</p> <p>8 bike, yes.</p> <p>9 Q. Why is it relevant to this case</p> <p>10 if he received a manual?</p> <p>11 A. Because my opinions with</p> <p>12 respect to the defect and the failure to warn</p> <p>13 is on all of these motorcycles that have this</p> <p>14 unique and specific fire hazard, not just Mr.</p> <p>15 Yazdani's. I didn't write a report</p> <p>16 specifically for Mr. Yazdani's bike. I wrote</p> <p>17 it for the product at issue, the R 1150 R.</p> <p>18 Q. I'd like you to look at Page 6</p> <p>19 of your report. We'll come back to that. I</p> <p>20 can't find the reference. It is on Page 6.</p> <p>21 The bottom paragraph beginning with the word,</p> <p>22 However... Are you with me?</p> <p>23 A. Yes.</p> <p>24 Q. However, it's not reasonable</p>	<p>Page 177</p> <p>1 leaving the vehicle idle at a standstill?</p> <p>2 A. That's what my report is about,</p> <p>3 but I'm not exactly sure what you're asking</p> <p>4 me.</p> <p>5 Q. Well, I'm reading, is that what</p> <p>6 you're referring to?</p> <p>7 A. Well, what I'm referring to</p> <p>8 there is critical warning and safety</p> <p>9 instructions must be provided where and when</p> <p>10 the information is needed and where the</p> <p>11 information is most likely encountered and</p> <p>12 seen.</p> <p>13 I don't know what other design</p> <p>14 defects that are on this bike that an</p> <p>15 on-product warning may need to be considered</p> <p>16 as a third alternative, but I'm speaking</p> <p>17 specifically in this report to the warning</p> <p>18 that I have on Page 14.</p> <p>19 Q. Does it have to be a product</p> <p>20 defect to have a warning?</p> <p>21 A. Well, it could be -- it doesn't</p> <p>22 have to be a defect. It has to be critical</p> <p>23 warning and safety instructions. So it has to</p> <p>24 be important.</p>
<p>Page 178</p> <p>1 for to BMW NA to rely solely on the Rider's</p> <p>2 Manual to communicate critical safety related</p> <p>3 information and warnings to secondary owners</p> <p>4 of the R 1150 R motorcycle.</p> <p>5 What are the critical safety</p> <p>6 related -- what is the critical related</p> <p>7 safety -- I'm going to start over.</p> <p>8 What is the critical safety</p> <p>9 related information and warnings to which you</p> <p>10 are referring in that sentence?</p> <p>11 A. Well, it's the one we're</p> <p>12 talking about, the one that I have on Page 14</p> <p>13 in my report.</p> <p>14 Q. So what is the alternative to</p> <p>15 not relying on the Rider's Manual?</p> <p>16 A. Well, as we discussed several</p> <p>17 times, the alternative is to mitigate it</p> <p>18 through fixing the design, providing a</p> <p>19 safeguard. And then if you're not going to do</p> <p>20 those two, provide an on-product warning as I</p> <p>21 depicted on Page 15 of my report.</p> <p>22 Q. So your reference there is only</p> <p>23 to critical safety related information</p> <p>24 relating to this issue for this fire, from</p>	<p>Page 180</p> <p>1 Q. So aren't you saying here that</p> <p>2 BMW should not rely on the Rider's Manual to</p> <p>3 communicate critical safety related</p> <p>4 information of any type to secondary owners?</p> <p>5 A. Again, it depends on what the</p> <p>6 issue is. If there is a critical issue that</p> <p>7 needs to be communicated for the operator to</p> <p>8 safely use the bike, then burying it in the</p> <p>9 manual as the sole and only way that you're</p> <p>10 communicating it is ineffective.</p> <p>11 So then they got to figure out</p> <p>12 what is the best way to deal with that hazard,</p> <p>13 and putting it in the manual is not the best</p> <p>14 way to deal with that hazard.</p> <p>15 Q. But is this the only safety</p> <p>16 related information that's critical to the</p> <p>17 safe operation of a motorcycle?</p> <p>18 A. I haven't analyzed the complete</p> <p>19 design of the bike and all the hazards</p> <p>20 associated with its design. I'm only</p> <p>21 concerned about this particular issue, the</p> <p>22 fire because of the oil sight glass failure</p> <p>23 when the bike is allowed to idle standstill.</p> <p>24 Q. But your point is we have a</p>

<p style="text-align: right;">Page 181</p> <p>1 potential for a secondhand user and we have 2 critical information that's in the manual that 3 he might not get or she might not get; 4 correct?</p> <p>5 A. Absolutely.</p> <p>6 Q. And therefore, there needs to 7 be another way to communicate?</p> <p>8 A. It depends on how you're 9 dealing with issue, what the issue is.</p> <p>10 So, again, in this case we have 11 an atypical problem. Most bikes when you let 12 them idle at a standstill don't catch on fire. 13 A lot of people allow their bikes to warm up 14 at a standstill for different periods of time 15 that are not aware that this is a potential 16 problem with the BMW R 1150.</p> <p>17 Because of that they needed to 18 find a different way to communicate that 19 information to the user if they're going to 20 choose not to fix it by changing the design or 21 providing a necessary safeguard.</p> <p>22 Q. I can understand why you don't 23 want to answer my question. So let's try it 24 again. This issue, I don't need to hear your</p>	<p style="text-align: right;">Page 183</p> <p>1 Q. Okay. Does Harley-Davidson 2 have to be concerned about critical safety 3 related warnings not being communicated to 4 secondary owners?</p> <p>5 A. I think that Harley-Davidson in 6 their hazard analysis and safety analysis of 7 their motorcycles would want to see what 8 hazards are associated with its product, 9 eliminate those that they can through design, 10 provide adequate safeguards and then determine 11 whether or not a warning in the manual is 12 appropriate or whether or not it needs to be 13 on the product because it's atypical and not 14 something that most riders would be aware of 15 or think about.</p> <p>16 MR. HEINOLD: Ken, I'm getting 17 this close to saying let's go see a Judge.</p> <p>18 MR. LEVINE: I think it's a 19 middle ground, frankly. I think that he can 20 answer the questions yes or no and then give 21 an explanation.</p> <p>22 MR. HEINOLD: You know what I'm 23 asking. You know what I'm asking. You don't 24 have to admit this on the record. You know</p>
<p style="text-align: right;">Page 182</p> <p>1 opinion on this issue, I think I've heard it 2 100 times perhaps.</p> <p>3 My question is: Your 4 criticizing my client on relying on a manual 5 to communicate critical safety related 6 information and warnings, plural, to secondary 7 owners; correct? You criticized my client for 8 that, yes?</p> <p>9 A. I -- yes, it's --</p> <p>10 Q. Is this the only -- is this 11 issue the only critical safety related 12 information or warning that has to be 13 communicated in some other manner if we accept 14 your criticism?</p> <p>15 A. I'm sorry, I did not analyze 16 the complete BMW R 1150 R to determine what 17 other defects may or may not have been present 18 and what other critical warnings or safety 19 information needs to be presented on the bike.</p> <p>20 Q. Should Harley-Davidson be 21 concerned about the same thing?</p> <p>22 A. Harley-Davidson doesn't have 23 the same defect, so I wouldn't think they 24 would be concerned about the same thing.</p>	<p style="text-align: right;">Page 184</p> <p>1 what I'm asking and you know he's not 2 answering.</p> <p>3 MR. LEVINE: I'm going to 4 disagree with that. And I agreed with you 5 before, by the way. I agreed with you before 6 that he wasn't answering your question.</p> <p>7 You're asking him something 8 that from his analysis standpoint takes a lot 9 more than a yes or no. It just does. You can 10 tell the way that this witness does his 11 analysis.</p> <p>12 MR. HEINOLD: Excuse me for 13 interrupting --</p> <p>14 MR. LEVINE: No, it's okay.</p> <p>15 The truth is -- you want to know -- the last 16 question was does Harley-Davidson need to put 17 any specific -- let me use the proper words 18 here, any specific critical safety related 19 information physically on their bikes?</p> <p>20 MR. HEINOLD: No, I didn't say 21 that.</p> <p>22 MR. LEVINE: I apologize, I 23 thought that was your question.</p> <p>24 MR. HEINOLD: I didn't say that</p>

<p>1 at all.</p> <p>2 MR. LEVINE: I thought that was 3 your question.</p> <p>4 MR. HEINOLD: I'll tell you 5 what, I'm going to tell you, okay, and then 6 you see if he answers the question.</p> <p>7 MR. LEVINE: Fair enough.</p> <p>8 MR. HEINOLD: Okay.</p> <p>9 MR. HEINOLD: This is an 10 explanation with a question at the end. I'm 11 sure you're intelligent to follow it and not 12 have to sort through it and say this big long 13 thing.</p> <p>14 MR. LEVINE: I'm ready.</p> <p>15 MR. HEINOLD: He's made a 16 statement critical of my client for relying on 17 a manual to communicate critical safety 18 related information to people who buy used 19 motorcycles because they might not get it.</p> <p>20 MR. LEVINE: Yes.</p> <p>21 BY MR. HEINOLD:</p> <p>22 Q. Correct?</p> <p>23 A. Sure.</p> <p>24 Q. Okay.</p>	<p>Page 185</p> <p>1 agree with that.</p> <p>2 BY MR. HEINOLD:</p> <p>3 Q. So I accept the proposition 4 there may be. Do you accept that proposition?</p> <p>5 A. If you asked that question I 6 would say maybe, sure.</p> <p>7 MR. LEVINE: And also, then you 8 said to him what other critical related safety 9 information would be required? To which I 10 believe the witness said, I have not analyzed 11 the bike for any other issue other than this 12 particular one, which I found to be of a 13 critical related, safety related information 14 issue. And then I believe --</p> <p>15 MR. HEINOLD: And then I think 16 he went on to --</p> <p>17 MR. LEVINE: Well, he does his 18 thing.</p> <p>19 MR. HEINOLD: -- a soliloquy.</p> <p>20 MR. LEVINE: Well, let me say 21 this to you in defense to the gentleman to my 22 right, and that is this: We continue to focus 23 on whether or not it was right or wrong for a 24 warning to be placed on the bike, because I</p>
<p>Page 186</p> <p>1 MR. HEINOLD: So, I want to 2 know is this the only critical safety related 3 information, this issue in this case, to which 4 he's referring, or is he talking generically?</p> <p>5 MR. LEVINE: I can answer your 6 question.</p> <p>7 MR. HEINOLD: I know you can 8 answer it.</p> <p>9 MR. LEVINE: And I believe that 10 he has, actually.</p> <p>11 MR. HEINOLD: What do you think 12 the answer is?</p> <p>13 MR. LEVINE: As written there, 14 it was meant to express the concept in 15 general.</p> <p>16 MR. HEINOLD: In general?</p> <p>17 MR. LEVINE: Yes, in general.</p> <p>18 MR. HEINOLD: That means, Ken, 19 does it not, that there's more than one issue 20 that has to be communicated in a critical 21 safety related warning in an alternate --</p> <p>22 MR. LEVINE: There may be.</p> <p>23 MR. HEINOLD: There may be.</p> <p>24 MR. LEVINE: There may be, I</p>	<p>Page 186</p> <p>1 know that's part of this case, but when asked 2 about the behavior, whether or not that was 3 right or wrong, inherently as an ergonomics 4 guy he also wants to say that we should never 5 even -- in addition to your focus on that 6 issue, we should never have gotten there, and 7 he is fearful that it will get lost in the 8 wash and then it will be only the answer to 9 the very isolated question you have.</p> <p>10 By the way, you then went on to 11 ask him about the Harley-Davidson, whether or 12 not their critical related safety information 13 that they should have physically put on it, to 14 which he went into his very long answer that I 15 haven't analyzed the Harley-Davidson.</p> <p>16 MR. HEINOLD: I asked that 17 because he wouldn't answer my other question. 18 It's a simple question.</p> <p>19 MR. LEVINE: I can answer that.</p> <p>20 BY MR. HEINOLD:</p> <p>21 Q. It's a simple question. If 22 you're not going to produce the manual -- if 23 they're not going to get the manual because 24 they're a secondhand user, would you agree</p>

<p style="text-align: right;">Page 189</p> <p>1 with me there's probably a whole bunch of 2 stuff that they ought to know that they're not 3 going to get? 4 A. It's possible. 5 Q. Okay, it's possible. And if 6 they're not going to get it, is the solution 7 to put something on the product? 8 A. It depends on what the issue 9 is. 10 Q. You hold open the possibility 11 that you might have other -- you haven't done 12 the analysis, I understand that, to hold open 13 the possibility that there might be other 14 issues that you have to put on the product? 15 A. Anything is possible. 16 Q. You don't know? 17 A. I don't know what? 18 Q. You don't know whether there 19 would or wouldn't be more? 20 A. As I said earlier, I did not 21 analyze the complete bike to determine what 22 other defects there may be that would require 23 a warning because BMW chose not to deal with 24 it in its design.</p>	<p style="text-align: right;">Page 191</p> <p>1 It would be the manufacturer's 2 responsibility to do that study to determine 3 what may or may not be appropriate. 4 Q. In the human factors world of 5 expertise, are there any warnings or 6 instructions, warnings or research that would 7 tell you that? 8 A. Tell me what? 9 Q. Tell you about how -- how to 10 determine how many warnings there would be so 11 as to avoid interference with understanding? 12 A. Sure, there's all kinds of text 13 and research, not necessarily text, 14 publications, guidelines on how to conduct 15 usability testing on your product to determine 16 whether or not a warning is appropriate, 17 whether the number of warnings you're 18 providing is appropriate. 19 I conducted many of tests like 20 that when I was with the IBM Corporation to 21 determine what worked and what didn't work. 22 Q. On what? 23 A. On products. 24 Q. No, but on-product warnings?</p>
<p style="text-align: right;">Page 190</p> <p>1 Q. You've talked about on-product 2 warning is necessary because of the clutter of 3 information, 89 Pages of the Rider's Manual; 4 correct? 5 A. That is a problem with 6 presenting warnings in manuals. 7 Q. Can you have too many 8 on-product warnings? 9 A. Sure. 10 Q. Can you create clutter there? 11 A. Sure. 12 Q. Can it interfere with 13 understanding awareness and recollection? 14 A. Of each -- or a single 15 individual warning, sure. 16 Q. Is there any study or research 17 or literature that tells how many such 18 warnings would create clutter? 19 A. There's not research that's 20 going to tell you any given situation whether 21 or not it would be considered clutter or have 22 a detrimental effect on the individual's 23 warnings ability to draw attention, have 24 somebody read it and understand it.</p>	<p style="text-align: right;">Page 192</p> <p>1 I'm talking about -- 2 A. Yes, on-product warnings and 3 manual warnings, whatever the case may be. 4 Again, and I know you don't 5 want to hear it, but the warning design is an 6 integral part of the product design. You 7 don't wait until the product is done and then 8 figure out that you have all these unaddressed 9 hazards and now you have to figure out what 10 warnings you're going to stick on the product 11 to make it safe. 12 You determine what hazards 13 there are with your product, and then you go 14 through the safety hierarchy, which ones can I 15 eliminate through design, which ones can I 16 minimize through design, which ones can I 17 provide a safeguard for. 18 At the end of the day what 19 happens is that list of hazards shrinks, and 20 now you're down to whatever residual hazards 21 are left and you have to decide on how you're 22 going to warn. And part of that decision is 23 what goes on the product, what goes in the 24 manual. And you decide that based upon</p>

<p style="text-align: right;">Page 193</p> <p>1 consequences such as death and severe property 2 damage as opposed to a paper cut and maybe I 3 ruined the chrome on my exhaust. So there's 4 different levels of the severity of the 5 hazard.</p> <p>6 You deal with it based on how 7 you expect people are going to use your 8 motorcycle, how people use the other 9 motorcycles and the knowledge that the people 10 are most likely going to have.</p> <p>11 So if it's an issue well, we 12 want to warn people to wear a helmet, that's 13 probably not something you need to put on the 14 bike itself, but something you can regulate or 15 set off into the manual.</p> <p>16 But if you have a unique fire 17 hazard associated with the design of your oil 18 sight glass, that's something that can lead to 19 severe consequences, including severe injury 20 or death and property damage. And two, it's 21 inconsistent with the way you know people use 22 bikes. And three, it's inconsistent with 23 people's knowledge of how you can safely use 24 the bike.</p>	<p style="text-align: right;">Page 195</p> <p>1 MR. LEVINE: Off the record. 2 - - - 3 (Whereupon a discussion was held off 4 the record.) 5 - - - 6 BY MR. HEINOLD: 7 Q. One warning says: Before you 8 operate this vehicle read the Owner's Manual 9 and all labels. The other says: Always wear 10 approved motorcycle helmet, eye protection and 11 protective clothing. The other on the 12 windshield says: Caution, cleaning with 13 alkaline or acid cleaner gasoline solvent will 14 damage the windshield. Use neutral material. 15 Do you believe both of those 16 are necessary? 17 A. I didn't do an analysis to 18 determine if they were necessary on that 19 Yamaha. I brought those pictures to depict 20 the fact that some manufacturers do, in fact, 21 put multiple warnings that they feel are 22 necessary on the bike. 23 Q. So you haven't done an analysis 24 of whether there might be others that you</p>
<p style="text-align: right;">Page 194</p> <p>1 So those three factors make it 2 important that it be on the product as opposed 3 to another hazard that may not be as severe or 4 people may know about it generally or is 5 consistent with how people typically use their 6 bike.</p> <p>7 Q. Have you done an analysis for 8 this bike, this manual, to determine whether 9 there should be any other on-product warnings?</p> <p>10 A. I have not.</p> <p>11 Q. Do you agree or disagree with 12 the possibility that there might be the need 13 for one if you did that analysis, one or more?</p> <p>14 A. It's certainly possible. I 15 showed you a photograph of that Yamaha earlier 16 that had two warnings that were conspicuously 17 placed on the motorcycle, one on the 18 windshield and one on the top of the gasket.</p> <p>19 Q. We didn't get copies of those 20 yet. You referred to the fact that you had 21 looked at them and had it included in your 22 report, but I didn't see them yet.</p> <p>23 A. I'm sorry, I'll pull them out 24 right now. There you go.</p>	<p style="text-align: right;">Page 196</p> <p>1 would think would be appropriate to put -- to 2 use as on-product warnings if that was the 3 issue before you; correct? 4 A. I think that I've answered this 5 multiple times, but I have not done that 6 analysis. So I do not have an answer to your 7 question. 8 Q. Are there any guidelines that 9 say how many is too many? 10 A. There are no guidelines that 11 say how many is too many. If you have a list 12 of warnings or hazards that you rely upon 13 warnings, the guideline is to make sure that 14 during design you're eliminating those that 15 you can through design and provide guards for 16 those you can't. 17 When you've gone through that 18 process and you are left with the warnings, 19 then you have to determine how you're going to 20 present it. And it can be on the product or 21 in the manual, and that decision is based upon 22 those things I talked about earlier. 23 Q. And if you've gone through all 24 of that and you determined that there are a</p>

<p>1 lot of things that you want to put on -- a lot 2 of labels and warnings and instructions that 3 you want to put on the motorcycle so that 4 someone doesn't sue you if they don't follow 5 it, are there -- is there any literature, is 6 there any scientific approach to say how many 7 is too many?</p> <p>8 A. There is a scientific approach.</p> <p>9 Q. What is it?</p> <p>10 A. It is the manufacturer's 11 responsibility to do their testing. If 12 they've got that many warnings left over that 13 they decided need to be on the bike they 14 better go and do their testing to insure that 15 they can do it appropriately. If they can't 16 do it appropriately, then they need to start 17 reconsidering whether or not they should be 18 offering that product for sale.</p> <p>19 Q. But from a warnings standpoint, 20 an expert such as yourself, there's no 21 guideline that says woh, that's too many, 22 right?</p> <p>23 A. There's no specific number of 24 warnings that are considered too many</p>	<p>Page 197</p> <p>1 A. Again, there are guidelines on 2 what you do. You can reference some of them 3 in my report. The very first reference is the 4 National Safety Council's Accident Prevention 5 Manual for Business and Industry 6 Administration Programs, 12th Edition. In 7 there they give a whole chapter, I've cited on 8 loss control and product safety. They tell 9 you the process that you need to go through to 10 analyze the hazards associated with your 11 product to determine how you're going to 12 mitigate it.</p> <p>13 There are references and 14 guidelines with respect to determining which 15 warnings need to be on the product versus 16 need -- or could be in the manual.</p> <p>17 Then after you decided which 18 can be eliminated or which should be 19 eliminated through design, which should be 20 guarded, so it's the residual hazards such as 21 hazards, all hazards, the residual hazards, 22 maybe that's a key step I'm not emphasizing 23 enough.</p> <p>24 MR. LEVINE: Oh, you're</p>
<p>1 warnings.</p> <p>2 Q. But you agree that someone 3 could put too many on there?</p> <p>4 A. A lot of manufacturers do.</p> <p>5 Q. On product?</p> <p>6 A. On products.</p> <p>7 Q. And when you say they do, you 8 mean they do put too many on there?</p> <p>9 A. Absolutely.</p> <p>10 Q. And the consequence of that is 11 an interference with the whole purpose of 12 having the warning in the first place?</p> <p>13 A. It can have a detrimental 14 effect on any single or any individual warning 15 within that clutter.</p> <p>16 Q. But that decision has to be 17 made individually by a manufacturer?</p> <p>18 A. It needs to be made by the 19 manufacturer. They're in control of their 20 product.</p> <p>21 Q. But there's no technique, no 22 guideline, no peer-reviewed studies, no any of 23 that they can refer to that says this is -- 24 here's the guidelines?</p>	<p>Page 198</p> <p>1 emphasizing.</p> <p>2 BY MR. HEINOLD:</p> <p>3 Q. You're emphasizing.</p> <p>4 A. But then there is a list of 5 other warnings related references that I cited 6 that deal with how to determine what warnings 7 go on the product, what warnings don't, and it 8 gets down to the severity of the injury, the 9 likelihood of the people having the knowledge 10 beforehand, and how the product is typically 11 used or commonly used.</p> <p>12 So those three factors hedge to 13 the fact that it needs to be on the product.</p> <p>14 If you have several hazards that are 15 associated or have that same characterization 16 and you decided that they need to be on the 17 product, now you go do your own testing to 18 determine how you're going to best present 19 them. And if you can't best present them, 20 then you got to question whether or not it's 21 safe to launch the product into the 22 marketplace.</p> <p>23 Q. Okay. So that's my question.</p> <p>24 You did all of the dissertation about how to</p>

<p style="text-align: right;">Page 201</p> <p>1 decide if you need to put a label on a 2 product, and then the question that I'm 3 interested in is: Well, then how many can you 4 put on there? And you said you would have to 5 do your own testing. That's the answer to 6 that question, right?</p> <p>7 A. It's an empirical question.</p> <p>8 Yes.</p> <p>9 Q. Okay. So then you agree with 10 me that when I'm -- well, you're agreeing with 11 me because I'm not -- I'm asking the question, 12 but my understanding from what you said is 13 that there are no guidelines about how many 14 you can put on the product so that you don't 15 achieve clutter and interference, or where you 16 have to put them, if you've got a product, you 17 got multiple warnings, you have to determine 18 that individually; correct?</p> <p>19 A. Well, part of what you said was 20 correct. Part of what you said was incorrect.</p> <p>21 Q. What part was correct?</p> <p>22 A. That you have -- you're the 23 product manufacturer, it's your product, 24 you're going to have to decide where to put</p>	<p style="text-align: right;">Page 203</p> <p>1 If you don't have the ability 2 in-house, you hire a human factors consulting 3 company to do it for you. You guys can call 4 me, I'd be happy to do it for you. I offer 5 that service.</p> <p>6 Q. Did you say usability testing?</p> <p>7 A. Yes.</p> <p>8 Q. What is usability testing?</p> <p>9 A. Usability testing is, in 10 essence, taking your users and providing them 11 or allowing them to interface with your 12 product and determine whether or not whatever 13 feature you're interested in is usable.</p> <p>14 So, in the case of warnings, 15 you want to know whether or not the two, 16 three, four, five or how many warnings you're 17 considering putting on the product, the place 18 where you're considering to put it on would be 19 effective. So you run them through hands-on 20 testing with the product.</p> <p>21 You can even start with doing 22 mock-ups, pencil paper mock-ups where you're 23 just showing users the design. If this is the 24 design of a motorcycle and I put a warning</p>
<p style="text-align: right;">Page 202</p> <p>1 those warnings if you have multiple warnings.</p> <p>2 Q. Okay. How many?</p> <p>3 A. That's up to the manufacturer 4 to decide. If they narrowed it down that they 5 have of list of two, 10, 20, whatever the case 6 may be, they have to decide can they do that 7 adequately.</p> <p>8 Q. Okay. And there's nothing that 9 they can refer that gives them the important 10 factors about how to make that decision; is 11 that right?</p> <p>12 A. That's not right.</p> <p>13 Q. Okay. Where is it?</p> <p>14 A. The guidelines talk about what 15 warnings should be -- how you prioritize 16 warnings.</p> <p>17 Q. Yes.</p> <p>18 A. Okay. Now, once you prioritize 19 it and you're trying to decide which ones go 20 on the product or how many, I should say, can 21 fit on the product, that's empirical testing.</p> <p>22 There's guidelines how to conduct usability 23 testing. There's, you know, dozens and dozens 24 of books on how to conduct usability testing.</p>	<p style="text-align: right;">Page 204</p> <p>1 here, would this capture your attention? You 2 can mock it up with Styro-foam if you have, 3 physically place the warnings where you think 4 that they're relevant or should be placed and 5 have the users conduct tasks and determine 6 whether or not they're seeing them, reading 7 them, understanding them and complying with 8 them.</p> <p>9 As you get farther along in 10 developing, you can actually take the 11 motorcycle and have alternative places where 12 you're going to test to determine what works 13 and what doesn't work. This is all empirical 14 testing.</p> <p>15 Q. If somebody was to come in this 16 case and say we need 25 labels, and that's too 17 many because it will create clutter, what 18 would you have to do to say no, they're wrong, 19 in terms of creating clutter?</p> <p>20 MR. LEVINE: Can I interrupt 21 for one second just so I understand. Do you 22 mean 25 in one place or 25 all over the 23 product?</p> <p>24 MR. HEINOLD: All over the</p>

<p>1 product.</p> <p>2 THE WITNESS: First I would</p> <p>3 want to know why they have that many. That</p> <p>4 would be the absolute first question. I'd</p> <p>5 want to know what was done to eliminate</p> <p>6 through design, what was done to guard against</p> <p>7 it. Then I would want to know the</p> <p>8 prioritization that was given to each of the</p> <p>9 warnings. Then I want to know were they</p> <p>10 relevant to on the bike, when they're</p> <p>11 relevant, where they're relevant.</p> <p>12 So, for example, if it has</p> <p>13 something to do with bleeding the brakes, for</p> <p>14 example, the warning being placed on the gas</p> <p>15 tank is probably not the appropriate place for</p> <p>16 it. You would probably want it down on the</p> <p>17 caliber. So it could be that when you get</p> <p>18 done you can find the spots that are relevant</p> <p>19 on the bike and place them specifically at</p> <p>20 those spots and you decrease the issue of</p> <p>21 clutter.</p> <p>22 If they're all relevant to the</p> <p>23 tank, the gas tank, let's say you've got 10</p> <p>24 warnings that are related to the gas tank, I</p>	<p>Page 205</p> <p>1 interference with the transmission of useful</p> <p>2 safety information or not? Usability test?</p> <p>3 A. Again, I can offer to do the</p> <p>4 usability testing. I can look at it and do a</p> <p>5 heuristic evaluation of it.</p> <p>6 MR. LEVINE: A what?</p> <p>7 THE WITNESS: Heuristic.</p> <p>8 BY MR. HEINOLD:</p> <p>9 Q. That's off the cuff?</p> <p>10 A. I'm sorry?</p> <p>11 Q. Is that like off the cuff?</p> <p>12 A. No. It's done based on what</p> <p>13 the professional knowledge and experience</p> <p>14 looking at the standards, guidelines and</p> <p>15 recommendations are from warning design,</p> <p>16 seeing whether or not you can meet those. So</p> <p>17 that's a certainly a way to do it.</p> <p>18 But again, you've got a</p> <p>19 hypothetical that is so outlandish that it</p> <p>20 stretches the imagination in the realms of</p> <p>21 possibility. If you have 20 different</p> <p>22 warnings that had to go on the gas tank, you</p> <p>23 know, my first inclination is that you can't</p> <p>24 do it, that this is ridiculous. You shouldn't</p>
<p>Page 206</p> <p>1 don't see how that's possible, then you got to</p> <p>2 look at whether or not they can be combined</p> <p>3 into a single one.</p> <p>4 I think the -- for example, the</p> <p>5 Yamaha warning that you looked at earlier,</p> <p>6 there was two different topics addressed in</p> <p>7 the same warning, so that's a multi topic</p> <p>8 warning. That's one way to reduce it. You</p> <p>9 know, there's just multiple ways of doing it.</p> <p>10 Q. So, if somebody said look, we</p> <p>11 have made a determination that we need to put</p> <p>12 20 stickers on the gas tank, what would you</p> <p>13 have to do to say no, that would be clutter,</p> <p>14 that would be too many?</p> <p>15 A. Again, I would have to look at</p> <p>16 what was done from a hazard analysis --</p> <p>17 Q. You said all that. I'm</p> <p>18 assuming you've done that. Now we've</p> <p>19 concluded that there's 20 pieces of</p> <p>20 information that need to be imparted in order</p> <p>21 for us to feel as if our product is safe, but</p> <p>22 we're concerned about clutter so we can't do</p> <p>23 that, what would you have to do to determine</p> <p>24 whether that would create clutter and be an</p>	<p>Page 208</p> <p>1 have this many hazards associated with the gas</p> <p>2 tank. What did you do differently or wrong</p> <p>3 with your design that requires 20 different</p> <p>4 warnings on the gas tank.</p> <p>5 Q. So if I distill all this, you</p> <p>6 would have to do a usability test to determine</p> <p>7 whether that particular decision of 20</p> <p>8 stickers on the gas tank would create clutter</p> <p>9 or interfere with the transmission of safety</p> <p>10 information because, as I understand, there's</p> <p>11 no guideline that says anything more than five</p> <p>12 is too many, you need to have five to seven,</p> <p>13 you know, anything like that?</p> <p>14 You would have to look at all</p> <p>15 the other things you talked about to make that</p> <p>16 kind of decision; is that right?</p> <p>17 A. I would say you're incorrect.</p> <p>18 For 20 different warnings on the gas tank, I</p> <p>19 think I can safely look at that and say that</p> <p>20 that would be inappropriate and inadequate.</p> <p>21 Q. Well, what -- that would be</p> <p>22 your opinion, right?</p> <p>23 A. That would be my learned</p> <p>24 opinion based on my education, training and</p>

<p>1 experience.</p> <p>2 Q. Well, what would -- how about</p> <p>3 five?</p> <p>4 A. Again, I'd go through the same</p> <p>5 process, determine why there's five that you</p> <p>6 would have to put on.</p> <p>7 Q. No, I got that process. I'm</p> <p>8 talking about we reached that point.</p> <p>9 See, here's my question --</p> <p>10 A. Then I think --</p> <p>11 Q. -- it's a simple one.</p> <p>12 A. Well, do I get to answer or do</p> <p>13 I get interrupted again?</p> <p>14 Q. Oh, you'll get interrupted</p> <p>15 again if you keep giving the same answer,</p> <p>16 non-answer.</p> <p>17 A. I'm sorry, go ahead. You keep</p> <p>18 asking the same question over and over again.</p> <p>19 Q. You're right, I do. You keep</p> <p>20 answering the same question. Here's the</p> <p>21 problem, your answer isn't my question.</p> <p>22 A. It depends on the situation.</p> <p>23 I'd have to look at it and give you my</p> <p>24 opinion.</p>	<p>Page 209</p> <p>1 depending upon the situation would determine</p> <p>2 what type of tool I used to evaluate it.</p> <p>3 Q. Okay. And within the arsenal</p> <p>4 of tools, what would they be?</p> <p>5 A. Well, the usability study would</p> <p>6 be one of them. A heuristic evaluation would</p> <p>7 be one of them.</p> <p>8 Q. Okay. Anything else?</p> <p>9 A. You need to go through a litany</p> <p>10 of different tools that are available to a</p> <p>11 manufacturer or a consultant.</p> <p>12 Q. That is specific to that</p> <p>13 question?</p> <p>14 A. There's multiple different ways</p> <p>15 you can do it. You can perform hallway</p> <p>16 testing on it. You can perform focus group</p> <p>17 testing on it. There's different fidelities</p> <p>18 in your usability testing. So there's</p> <p>19 different ways to skin the cat. It depends on</p> <p>20 the situation.</p> <p>21 Q. You mentioned a few moments ago</p> <p>22 making a decision on whether an on-product</p> <p>23 warning is appropriate or not. Let's say</p> <p>24 necessary. Okay, you would evaluate whether</p>
<p>Page 210</p> <p>1 Q. My point is simply this: You</p> <p>2 would be guided by your experience and your</p> <p>3 knowledge of what an individual warning ought</p> <p>4 to be and whether it's an appropriate</p> <p>5 communication, not by a reference manual or a</p> <p>6 study that says this many warnings create</p> <p>7 clutter or any testable hypothesis, yours you</p> <p>8 would be testing to create answers, right?</p> <p>9 A. I don't know what you're trying</p> <p>10 to ask me, and I'm having a hard time giving</p> <p>11 you an answer because I'm sure if I give you</p> <p>12 an answer you're going to tell me it wasn't</p> <p>13 responsive to your question.</p> <p>14 Q. Likely.</p> <p>15 A. So please try to maybe break</p> <p>16 that question apart, rephrase it.</p> <p>17 Q. Well, my point was this: If</p> <p>18 you had a question as to whether a certain</p> <p>19 number of labels created clutter or</p> <p>20 interference of with a transmission of safety</p> <p>21 information, you would conduct a usability</p> <p>22 study in order to answer that question;</p> <p>23 correct?</p> <p>24 A. I would evaluate it, and</p>	<p>Page 212</p> <p>1 an on-product warning is necessary.</p> <p>2 What are the guidelines,</p> <p>3 factors that you have to consider?</p> <p>4 A. I went through them multiple</p> <p>5 times.</p> <p>6 Q. Are they written anywhere or is</p> <p>7 this just a general --</p> <p>8 A. They're written in the</p> <p>9 references I cited and other references. I</p> <p>10 determined an organization of warnings.</p> <p>11 Q. Those references give you the</p> <p>12 guidelines about -- I understand you have an</p> <p>13 opinion, all right. I want to look at what</p> <p>14 field that you claim expertise says about</p> <p>15 that. That's what I'm looking for.</p> <p>16 Is it these references?</p> <p>17 A. The easiest one to point is</p> <p>18 the -- I see the Warnings and Risk</p> <p>19 Communication most likely has a chapter</p> <p>20 dealing with the prioritization of warnings.</p> <p>21 I didn't bring a reference specifically cited</p> <p>22 to address that topic because it wasn't -- I</p> <p>23 didn't think it was relevant or necessary.</p> <p>24 Q. What, how to decide whether or</p>

<p style="text-align: right;">Page 213</p> <p>1 not you need an on-product warning, you didn't 2 think it was a relevant or necessary topic for 3 this deposition?</p> <p>4 A. Well, BMW North America 5 determined what was needed.</p> <p>6 Q. Well, you determined that their 7 determination was wrong?</p> <p>8 A. No. I determined that it was 9 right. Then when they put on the warning on 10 the product in 1997 for the same type of 11 hazard, that was the appropriate thing to do. 12 What they did for the incident bike was 13 inappropriate.</p> <p>14 Q. It's correct that BMW North 15 America didn't make those determinations. 16 That's the Defendant in this case. You're 17 aware of that, right?</p> <p>18 A. I'm aware that BMW North 19 American administered the recall.</p> <p>20 Q. Okay. They didn't make the 21 determinations?</p> <p>22 A. They could have administered 23 however they wanted. They were the responding 24 party in this country.</p>	<p style="text-align: right;">Page 215</p> <p>1 that you embrace and say this warning 2 qualifies or this warning doesn't?</p> <p>3 A. I think your expert referred to 4 the Handbook of Warnings that I authored, two 5 chapters and edited two other chapters in his 6 report. So I think that's probably a very 7 good resource for you.</p> <p>8 Q. Okay. Let's assume we have a 9 purchaser of a used motorcycle who didn't get 10 the manual. Are you with me?</p> <p>11 A. Sure.</p> <p>12 Q. What information can you think 13 of, as you sit here, needn't be an exhaustive 14 list, but what information would that person 15 need to know before he or she got on the 16 motorcycle or attempted to operate it?</p> <p>17 A. It depends.</p> <p>18 Q. On what?</p> <p>19 A. Their experience, the manner in 20 which it's set out. Maybe the person selling 21 it to them gave them some tips and 22 information.</p> <p>23 Mr. Yazdani testified he didn't 24 read the manual until after he drove the thing</p>
<p style="text-align: right;">Page 214</p> <p>1 Q. Okay. So, I thought you were 2 giving me an answer and then you appeared to 3 back away from the answer in terms of the 4 guidelines that says and the factors that say 5 whether on-product is necessary or not?</p> <p>6 A. Looking at chapter -- or 7 Reference 3, Wogalter and Vigilante, that's my 8 chapter in the Handbook of Warnings, I notice 9 the date on there is incorrect, it should be 10 2006, not 1999, does deal with location and 11 prioritization. Peters, 15 cardinal 12 principles to ensure effectiveness of warning 13 systems will deal with location of warning 14 information.</p> <p>15 Q. Any others?</p> <p>16 A. I'm not seeing offhand.</p> <p>17 Q. So, if I read that, I'll 18 understand the factors that one would apply to 19 determine whether an on-product is necessary; 20 correct?</p> <p>21 A. I don't know what you 22 understand, but the information is in there.</p> <p>23 Q. Let's say somebody who 24 understands would be able to follow guidelines</p>	<p style="text-align: right;">Page 216</p> <p>1 back to Boston. So he's on a multi hundred 2 mile trip before ever picking up and reading 3 that manual.</p> <p>4 Q. Do you think that's a good 5 idea?</p> <p>6 A. Yes. We talked about this 7 before. I think it's reasonable that if you 8 don't feel that you need to read the manual, 9 that many people, reasonable people won't read 10 the people. That's why you can't depend upon 11 the manual to inform them of critical safety 12 information.</p> <p>13 So, you know, it gets back to 14 the question if you feel you need to read the 15 manual, if you have no idea how to use the 16 product, then it's probably necessary and 17 reasonable for you to read a manual.</p> <p>18 I bought my new car in 19 December. I drove home from the dealer 20 without reading the manual. It's a several 21 hundred page manual. I can tell you I haven't 22 read the thing front to back because I don't 23 have the time to do it. So I looked at some 24 information that I was interested in that I</p>

<p style="text-align: right;">Page 217</p> <p>1 didn't need to know like how to set the 2 navigation, and that's it.</p> <p>3 If there was something uniquely 4 dangerous about that car I would have hoped 5 that the dealer and/or the on-product warning 6 would have told me.</p> <p>7 Q. Let's use the most common 8 denominator, a used purchaser who might not 9 know very much, bought it used?</p> <p>10 A. How do you know they don't know 11 it very much?</p> <p>12 Q. Let me ask you this: You've 13 been critical of the reliance on the manual to 14 communicate important safety information to 15 secondhand purchasers who may not get the 16 manual. So if that's the case, doesn't there 17 have to be some baseline of basic information 18 that should be communicated if your criticism 19 is valid, in some other method?</p> <p>20 A. Sure.</p> <p>21 Q. I'm not asking for the 22 baseline.</p> <p>23 A. Sure, absolutely.</p> <p>24 Q. Okay. So what's the baseline?</p>	<p style="text-align: right;">Page 219</p> <p>1 product out on the market that is like a 2 motorcycle, but has different controls, maybe 3 there's no hand levers, maybe there's three 4 pedals on one side and none on the other, then 5 you're probably going to need a manual or if 6 somebody teaches you how to use it or how to 7 ride it.</p> <p>8 But if you're talking about 9 basic operation, there's no need to read the 10 manual. If you're not planning on doing your 11 own maintenance, as Mr. Yazdani apparently 12 wasn't, there's no reason to go into the 13 manual to figure out all these different 14 things related to maintenance. You take it to 15 the shop, and BMW North America makes money 16 because the dealer charges a lot to have you 17 maintain the bike. So, again, it's a -- it 18 just depends on the bike and the situation.</p> <p>19 Q. Do you think you answered my 20 question?</p> <p>21 MR. LEVINE: I actually think 22 he gave you more than you ever asked for.</p> <p>23 MR. HEINOLD: Oh, absolutely.</p> <p>24 You think the answer's in there?</p>
<p style="text-align: right;">Page 218</p> <p>1 A. The baseline, for example, with 2 a motorcycle is that they are typically 3 operated the same way. They have two levers 4 at the handlebars, one's a clutch, one's a 5 brake, they have two pedals, one on each side, 6 one's for the gears, one's for the rear 7 brakes. If a person gets on a motorcycle 8 they've never driven before and the buttons 9 for start, stop, or what have you, are clearly 10 labeled, they would probably get on that 11 motorcycle and drive away.</p> <p>12 Now, you do recall that I had 13 three used Harley-Davidsons and I'm not sure 14 that one of them came with an Operator Manual, 15 but I do know when I rode it home from where I 16 bought it I didn't read any of the Operator 17 Manuals. I think at least two, if not all 18 three of them, I didn't get the manual until 19 much later until, which means I had been 20 riding around on that bike for a while without 21 reading and never did I feel unsafe or never 22 did I feel that I was doing something wrong or 23 unsafe or incorrect.</p> <p>24 Now, if you were to put a</p>	<p style="text-align: right;">Page 220</p> <p>1 MR. LEVINE: I do believe the 2 answer to that one is in there.</p> <p>3 You are asking him some 4 questions about minimal things that -- you're 5 very broad in these circumstances.</p> <p>6 MR. HEINOLD: Absolutely.</p> <p>7 MR. LEVINE: You're very broad 8 in these circumstances. So his answer, to be 9 complete, is to be very broad as well. I 10 think that it is very hard in this instance to 11 come up with a very concise question that will 12 allow for a very concise answer when you're 13 talking about these warnings topics.</p> <p>14 But keep trying, and if I think 15 he's offensive or going astray, as I have in 16 the past, I would either cut him off, I'll ask 17 him to answer directly. I'm more helpful than 18 the average opposing counsel.</p> <p>19 MR. HEINOLD: You probably are, 20 but I agree to disagree on this one.</p> <p>21 MR. LEVINE: Okay.</p> <p>22 THE WITNESS: Do you mind if we 23 take a five-minute break?</p> <p>24 MR. HEINOLD: Sure.</p>

<p>1 - - -</p> <p>2 (Whereupon, a short break was taken at</p> <p>3 this time.)</p> <p>4 - - -</p> <p>5 BY MR. HEINOLD:</p> <p>6 Q. Do you think the warning that</p> <p>7 you've been discussing about the risk of fire</p> <p>8 is the most important warning in regard to</p> <p>9 operating this motorcycle?</p> <p>10 A. The most important warning with</p> <p>11 respect to my opinions in this case, yes.</p> <p>12 Q. With respect to operating the</p> <p>13 motorcycle?</p> <p>14 A. I don't think I went through</p> <p>15 all the different warnings for operating</p> <p>16 motorcycles.</p> <p>17 Q. So the answer is you don't</p> <p>18 know?</p> <p>19 A. I don't know.</p> <p>20 Q. This proposed warning on Page</p> <p>21 14, what size is it?</p> <p>22 A. That's actually the size that I</p> <p>23 intended. No, I take that back. I did print</p> <p>24 out the actual size. That's about the size I</p>	<p>Page 221</p> <p>1 where you think it should be in order to be</p> <p>2 effective?</p> <p>3 A. There's multiple locations, but</p> <p>4 I'll be happy to.</p> <p>5 Q. Identify as many of them as you</p> <p>6 can, please.</p> <p>7 A. (Witness indicates.)</p> <p>8 Q. Can you prioritize which ones</p> <p>9 you think is best or how did you reach that</p> <p>10 decision?</p> <p>11 A. I think they all would be fine</p> <p>12 (indicating).</p> <p>13 Q. Are you finished?</p> <p>14 A. Yes.</p> <p>15 MR. LEVINE: For the record,</p> <p>16 the witness put X marks on I believe four</p> <p>17 locations on two pictures.</p> <p>18 - - -</p> <p>19 (Whereupon, Exhibit Vigilante-6 was</p> <p>20 marked for identification.)</p> <p>21 - - -</p> <p>22 BY MR. HEINOLD:</p> <p>23 Q. Page 15 of your report --</p> <p>24 A. Okay.</p>
<p>1 intended.</p> <p>2 MR. HEINOLD: Let's mark this</p> <p>3 as an Exhibit.</p> <p>4 - - -</p> <p>5 (Whereupon, Exhibit Vigilante-5 were</p> <p>6 marked for identification.)</p> <p>7 - - -</p> <p>8 MR. HEINOLD: I don't know if</p> <p>9 we gave a list of the Exhibits thus far.</p> <p>10 Vigilante-1 is the report. Exhibit 2 is the</p> <p>11 Testimony List. Exhibit 3 is the C.V.</p> <p>12 Exhibit 4 is what was marked as Yazdani-1.</p> <p>13 And Exhibit 5 is the actual warning and size</p> <p>14 which the witness has printed and provided.</p> <p>15 BY MR. HEINOLD:</p> <p>16 Q. Where would you place it</p> <p>17 precisely?</p> <p>18 A. Oh, I don't know that I have to</p> <p>19 be pinned down to a precise location, but</p> <p>20 certainly on top of the gas tank, on the</p> <p>21 handlebars between the clamps and then on the</p> <p>22 console or even on the center pivot.</p> <p>23 Q. Can you take whatever photo</p> <p>24 you're referring to and pull it out and mark</p>	<p>Page 222</p> <p>1 Q. Finding number 4, you say that:</p> <p>2 This warning failed to meet contemporary</p> <p>3 industry standards, guidelines and practices.</p> <p>4 Can you identify what those</p> <p>5 contemporary industry standards, guidelines</p> <p>6 and practices are?</p> <p>7 A. Sure, Page 17, I'll just give</p> <p>8 you the numbers, if that's okay.</p> <p>9 Q. All right.</p> <p>10 A. Number one, these are my</p> <p>11 references --</p> <p>12 Q. On Page 17, sorry.</p> <p>13 A. Number 1, Number 2, Number 3,</p> <p>14 Number 4, Number 5, Number 6.</p> <p>15 Q. 1, 2, 3, 4, 5, 6, is that what</p> <p>16 you said?</p> <p>17 A. Yes.</p> <p>18 Q. 1 through 6?</p> <p>19 A. Yes, and then -- that's fine.</p> <p>20 Q. And do you believe that the</p> <p>21 warning in the manual violated ANSI Z535.4?</p> <p>22 A. I'm sorry, one more time. Do I</p> <p>23 believe that it violated it?</p> <p>24 Q. Is it your opinion that the</p>

<p style="text-align: right;">Page 225</p> <p>1 warnings on this issue in the manual violated 2 ANSI Z535.4?</p> <p>3 A. That's for on-product safety 4 signs and labels. This is in a manual.</p> <p>5 Q. So the failure to comply is 6 because there was no on-product safety?</p> <p>7 A. Yes.</p> <p>8 Q. Okay. Do you believe that the 9 on-product label that was provided with the 10 recall product, provided to the recall product 11 violated Z535.4?</p> <p>12 A. Well, it depends on which part.</p> <p>13 MR. LEVINE: I think he was 14 done with his answer, by the way.</p> <p>15 MR. HEINOLD: It depends on 16 which part. I guess I was waiting for him to 17 tell me which part violates it and which part 18 doesn't.</p> <p>19 THE WITNESS: I'm sorry, I was 20 trying to keep the answer short.</p> <p>21 BY MR. HEINOLD:</p> <p>22 Q. Which part violates it and what 23 part doesn't?</p> <p>24 A. Well, the on-product where ANSI</p>	<p style="text-align: right;">Page 227</p> <p>1 not signal word header, orange, safety orange, 2 no border.</p> <p>3 Q. Is Z535.4 mandatory?</p> <p>4 A. Is it mandatory? No, it's 5 not -- well, I'm sorry, it depends.</p> <p>6 Q. What does it depend on?</p> <p>7 A. It depends on whether there's a 8 Federal regulation that calls out the 9 requirement to meet it or not. So there are 10 some Federal regs that require it be met. But 11 in this case I don't think it's required. So 12 sorry.</p> <p>13 Q. In this case, Mr. Yazdani's 14 intention was to start the motorcycle, to warm 15 it up, go outside and smoke a cigarette for 16 seven or nine minutes, come back and turn it 17 off. Is that your understanding?</p> <p>18 A. That's my understanding.</p> <p>19 Q. All right. And is it your 20 understanding he got distracted and forgot?</p> <p>21 A. That's my understanding.</p> <p>22 Q. And that he walked back through 23 the garage where the motorcycle was running 24 and went back into the house?</p>
<p style="text-align: right;">Page 226</p> <p>1 Z535.2 requires it be located at the time and 2 location the information necessary is met.</p> <p>3 But the parts requiring signal word were not 4 met. The parts requiring the formatting of 5 the signal word were not met. Parts 6 recommending a border were not met. Parts 7 recommending a signal word icon were not met.</p> <p>8 Q. You said signal word --</p> <p>9 A. Icon?</p> <p>10 Q. No. Then you said a second 11 thing. Then you said border and then you said 12 a signal word icon.</p> <p>13 A. Oh, I'm sorry, the first was 14 just a signal word.</p> <p>15 Q. Right. And then what was the 16 second one?</p> <p>17 A. I said there was -- I don't 18 remember the order of them.</p> <p>19 Q. You said four. I only wrote 20 down three. We can read it back or you can 21 tell me the four again.</p> <p>22 A. There was no signal word, no 23 signal word icon. There's no format. A 24 signal word header is not format. There was</p>	<p style="text-align: right;">Page 228</p> <p>1 A. A little bit fuzzy what you're 2 trying to say there.</p> <p>3 MR. LEVINE: He asked for the 4 last two factors you put before him.</p> <p>5 BY MR. HEINOLD:</p> <p>6 Q. That he went from outside the 7 garage door that was open back through the 8 garage and into his house to talk on the 9 phone. Is that your understanding?</p> <p>10 A. I would say my understanding is 11 that he walked through the garage into the 12 house. I don't know that he walked back from 13 outside. So you put that caveat on there. 14 I'm not sure that's a hundred percent -- my 15 understanding is he walked from the garage 16 into the house.</p> <p>17 Q. Okay.</p> <p>18 A. And the bike was running in the 19 garage. I agree with all that.</p> <p>20 Q. There was a two-car garage with 21 one door opening?</p> <p>22 A. Two-car garage. I don't 23 remember if it was one or two doors open, but 24 one or the other.</p>

<p style="text-align: right;">Page 229</p> <p>1 Q. Does that matter to you? 2 A. No. 3 Q. Do you agree that on that date 4 he didn't act as he intended to act when he 5 started the motorcycle? 6 A. Sure. 7 Q. Do you believe that an 8 on-product warning that satisfies your 9 requirements, as you suggested, would have 10 caused him not to be distracted and forget the 11 motorcycle was running and then go into the 12 house? 13 A. I don't think it would have 14 caused him not to be distracted. I think it 15 would have informed him that he shouldn't let 16 the bike run at a standstill. Therefore, he 17 wouldn't have started it in the first place. 18 Q. What is your basis for that? 19 A. The basis is that he would have 20 been provided with the warning and the 21 information he needed to understand the hazard 22 and that when he was planning on doing, 23 letting it run seven to 10 minutes was not 24 safe because it could result in a fire.</p>	<p style="text-align: right;">Page 231</p> <p>1 have. Is there some technique, something you 2 rely on to say that Mr. Yazdani would or would 3 not have followed the warning? 4 A. Sure. 5 Q. What is it? 6 A. Well, I would look at his 7 testimony and his statements to see if there's 8 anything to indicate that he's not a 9 reasonable person that wouldn't act like the 10 majority of people would act. And I don't see 11 anything in his testimony to suggest that he 12 wouldn't have acted like the majority of 13 people or the way you expect the majority of 14 the people to act. 15 And number two, he testified 16 that he wasn't aware of the hazard before he 17 did what he did. 18 Q. Is there any literature which 19 discusses the limitations of on-product 20 warnings? 21 A. Well, I think the answer to 22 your question is that most warnings literature 23 recognize the limitations of using an 24 on-product warning saying it's a hazard,</p>
<p style="text-align: right;">Page 230</p> <p>1 Q. People don't always follow 2 warnings and instructions; correct? 3 A. They absolutely do not, that's 4 why you try to eliminate them by design, 5 provide the necessary safeguards and not rely 6 upon warnings. 7 Q. But you do agree that people 8 don't always follow warnings? 9 A. I absolutely agree with that. 10 Q. And what is your basis for 11 saying that Mr. Yazdani would have followed 12 this particular warning? 13 A. A couple things. Number one, 14 he wasn't aware of the hazard that he was 15 exposed to when he started the bike to leave 16 it run for even seven to nine minutes. 17 And two, there's a litany of 18 research out there that shows if you provide 19 adequate warnings most people will follow, 20 see, understand and company with an on-product 21 warning. 22 Q. Is there some type of technique 23 to decide whether he would or would not 24 have -- I mean, you have an opinion it would</p>	<p style="text-align: right;">Page 232</p> <p>1 particularly when there are design regarding 2 solutions available. 3 Q. Is there any literature which 4 discusses the limitations and the 5 effectiveness of an on-product warning itself? 6 A. Well, there certainly are 7 studies that have been done on the 8 effectiveness of adequate warnings to change 9 behavior. And a good one, I don't know if I 10 referenced it or not, but it's done by Cox and 11 Wogalter, it was a Met-analysis done on the 12 effectiveness of warnings, and they showed 13 that, in fact, when you provide adequate 14 warnings they do change behavior. 15 MR. LEVINE: Can you tell her 16 the name of the two authors? 17 THE WITNESS: Cox, C-O-X, and 18 Wogalter. And then I note from my own 19 research in my own experience in designing and 20 developing on-product warnings that when you 21 provide effective and adequate on-product 22 warnings they do, in fact, change behavior. 23 BY MR. HEINOLD: 24 Q. Which studies have you</p>

<p>1 researched for that?</p> <p>2 A. Well, to give you an example,</p> <p>3 some of the technical reports I wrote that</p> <p>4 would -- on Page 9 of my C.V., second to the</p> <p>5 last page, there's a technical report dealing</p> <p>6 with the feasibility and competitive</p> <p>7 evaluation of the IBM high rate wireless land</p> <p>8 PC card, and the part of that testing had to</p> <p>9 do so with testing the provisions of a warning</p> <p>10 on the product.</p> <p>11 Q. What was the warning?</p> <p>12 A. The warning basically said that</p> <p>13 the PC card needed to be installed after the</p> <p>14 drivers was installed, otherwise it wouldn't</p> <p>15 work. And it was a -- you want me to explain</p> <p>16 all of it? Because I want to keep things</p> <p>17 short.</p> <p>18 Q. Thirty words or less.</p> <p>19 A. When they designed the wireless</p> <p>20 card they should have designed it so that it</p> <p>21 worked, the install worked regardless whether</p> <p>22 you put the PC card in first or not. But the</p> <p>23 way they designed the driver, the driver had</p> <p>24 to be installed first before the PC card.</p>	<p>Page 233</p> <p>1 Q. How about the effectiveness</p> <p>2 study of Cox and Wogalter, was that a peer</p> <p>3 reviewed study?</p> <p>4 A. Yes. And the other study I was</p> <p>5 looking for was the December 1999 Ideascan</p> <p>6 2000, usability study and competitive</p> <p>7 evaluation. And this looked at the</p> <p>8 effectiveness of adding a warning to the</p> <p>9 scanner to prevent another damage to the</p> <p>10 scanner.</p> <p>11 Q. Another IBM? I didn't find it</p> <p>12 yet. What page is it?</p> <p>13 A. It's on the second to the last</p> <p>14 page.</p> <p>15 Q. And that's another IBM internal</p> <p>16 use?</p> <p>17 A. Technical Report.</p> <p>18 Q. Any others?</p> <p>19 A. They're the only two I believe</p> <p>20 that I wrote, technical reports.</p> <p>21 Q. My question was literature on</p> <p>22 the effectiveness and/or limitations on</p> <p>23 on-product warnings?</p> <p>24 MR. LEVINE: I'm sorry, can you</p>
<p>1 And I told them that most</p> <p>2 people are going to put the PC card in first</p> <p>3 and then try and install the driver, and when</p> <p>4 they do that they're going to cause a problem,</p> <p>5 which is going to drive the help call, service</p> <p>6 call.</p> <p>7 So the compromise they did for</p> <p>8 the initial release of the product was to put</p> <p>9 a warning on the plastic case of the PC card</p> <p>10 saying, Don't install the PC until you</p> <p>11 installed the driver. And that was a</p> <p>12 workaround until they fixed the driver issue.</p> <p>13 Q. So was that a study that you</p> <p>14 did?</p> <p>15 A. Yes, part of a usability test.</p> <p>16 Q. Peer reviewed?</p> <p>17 A. I don't know if it was peer</p> <p>18 reviewed in a classical sense.</p> <p>19 Q. Published?</p> <p>20 A. It was published as an IBM</p> <p>21 Technical Report.</p> <p>22 Q. Within IBM?</p> <p>23 A. Yes. It was implemented in the</p> <p>24 design of the product and sold.</p>	<p>Page 234</p> <p>1 repeat the question.</p> <p>2 BY MR. HEINOLD:</p> <p>3 Q. The effectiveness or</p> <p>4 limitations on on-product warnings.</p> <p>5 A. Well, there's other examples.</p> <p>6 So, for example, Reference 11 looked at the</p> <p>7 compliance to Owner's Manuals warnings,</p> <p>8 influence of familiarity and placement of a</p> <p>9 supplemental directive. So in that study they</p> <p>10 put a warning label, an abbreviated warning</p> <p>11 label on the device pointing to the manual or</p> <p>12 additional information regarding the</p> <p>13 particular problem versus just having the</p> <p>14 information in the manual.</p> <p>15 Q. And that's a 1995 study?</p> <p>16 A. Yes.</p> <p>17 Q. Is that peer reviewed?</p> <p>18 A. Yes, it's in the Journal of</p> <p>19 Ergonomics.</p> <p>20 Q. I assume you provided me with a</p> <p>21 copy of that?</p> <p>22 A. It's on the disk.</p> <p>23 Q. Any others?</p> <p>24 A. I mean, I can -- if you give me</p>

<p>1 time I can come up with other ones, but 2 they're the ones that I have referenced either 3 in my report or in my C.V.</p> <p>4 Q. So let me go back to usual 5 distraction. Is it your opinion that that 6 doesn't matter because he wouldn't have been 7 doing the activity to begin with, the fact 8 that he was distracted and forgot?</p> <p>9 A. Right. The distraction is 10 irrelevant. The question is whether or not he 11 had the information he needed to leave the 12 bike in the first place.</p> <p>13 Q. Will you agree with me if Mr. 14 Yazdani had read the Manual and had understood 15 the warning and had followed the warning, he 16 would not have left the motorcycle idling at a 17 standstill in his garage on that day?</p> <p>18 A. If he followed BMW's intention 19 for the warning in the Manual he wouldn't have 20 left it running at a standstill in the garage.</p> <p>21 Q. And if he had read the Manual 22 and he had understood the Manual prior to this 23 incident, the existence or nonexistence of the 24 label you propose on the motorcycle would not</p>	<p>Page 237</p> <p>1 warning would have -- its presence or absence 2 would have no causal effect on this incident. 3 Do you agree with that?</p> <p>4 A. It would reinforce what he had 5 read and remembered.</p> <p>6 Q. If he remembered it, does he 7 need to be reinforced?</p> <p>8 A. Sure.</p> <p>9 Q. If he remembered it and he 10 wasn't reinforced, would he still do the 11 prohibited act?</p> <p>12 A. If he remembered -- my opinion 13 is if he had read the Manual, read Pages 51 14 and 60, understood what BMW was trying to 15 communicate to him, and then practiced that 16 and recalled that at the time he wouldn't have 17 done what he did.</p> <p>18 Q. And therefore, the existence or 19 nonexistence of the label on the motorcycle 20 would have no causal effect to this incident; 21 correct?</p> <p>22 A. The only thing it would have 23 served in that purpose was to remind him and 24 reinforce what he had remembered and read and</p>
<p>Page 238</p> <p>1 matter; correct?</p> <p>2 A. That's not true.</p> <p>3 Q. Okay. Why would it matter?</p> <p>4 A. Well, first of all, the warning 5 needs to be on the bike regardless of whether 6 Mr. Yazdani ever purchases the bike. So it 7 should have been there when he got it.</p> <p>8 Number two, if Mr. Yazdani did 9 happen to read the Manual, did happen to read 10 all the Manual, did happen to read all of 51 11 and 60 to understand exactly what BMW was 12 trying to communicate to him, and then 13 subsequently forgot it, the warning would have 14 reminded him at the time of location it was 15 needed. If read it and remembered it, the 16 warning on the bike would have reinforced what 17 he had read in the Manual encouraging him not 18 to do what he did.</p> <p>19 Q. Assuming he had read it, read 20 these warnings, okay, assume he understood 21 what BMW was trying to tell him about not 22 running at a standstill, idling at a 23 standstill because of the risk of fire, and 24 assume he remembered that, then the on-product</p>	<p>Page 239</p> <p>1 understood.</p> <p>2 Q. But if he wasn't going to do it 3 anyway, which we just agreed under my 4 hypothetical, then it wouldn't have mattered 5 whether it was on there or not; correct?</p> <p>6 A. I would agree if he knew that 7 there was a risk of fire by letting the bike 8 idle in a stationary position, decided to do 9 it anyway, the warning wouldn't have changed 10 his mind. That's why you want to eliminate 11 through design or by safeguard.</p> <p>12 Q. I want to get your opinion on 13 this clearly and cleanly.</p> <p>14 We're going to assume for 15 purposes of my question that he had read the 16 appropriate pages in the Manual regarding the 17 risk of fire if he ran the engine at a 18 standstill, okay? So we're assuming that; 19 correct?</p> <p>20 A. Okay.</p> <p>21 MR. LEVINE: Your question is 22 assuming that.</p> <p>23 MR. HEINOLD: My question is 24 assuming that.</p>

<p style="text-align: right;">Page 241</p> <p>1 MR. LEVINE: Fair enough. 2 BY MR. HEINOLD: 3 Q. I'm asking you to assume that. 4 A. Okay. 5 Q. And I'm asking you to further 6 assume that when he read those pertinent 7 portions of the Manual he understood the risk 8 that was being conveyed in those lines, okay? 9 A. Okay. 10 Q. And I want you to further 11 assume that he remembered it; correct? Okay? 12 A. Okay. 13 Q. If you make those three 14 assumptions, then he wouldn't need a reminder 15 on the motorcycle to change his conduct; 16 correct? 17 A. If he remembered it at the time 18 he went out to start the bike he wouldn't need 19 a reminder. 20 Q. Okay. And therefore, if he 21 read it and if he understood it and if he 22 remembered it he wouldn't -- the label, 23 whether it is there or not, is of no 24 consequence; correct?</p>	<p style="text-align: right;">Page 243</p> <p>1 agreed that if he read it, understood it and 2 remembered it, he wouldn't be doing it in the 3 first place which is why there's no causal 4 connection, which you also agreed to; correct? 5 A. If he read it, fully understood 6 it and remembered it at the time and did it 7 anyways, like I said, the on-product warning 8 may have reinforced the manual, but I doubt it 9 would have changed his behavior if he was 10 intending to disregard what he had known and 11 remembered otherwise. 12 Q. As the owner of a motorcycle, 13 did Mr. Yazdani have a responsibility to read 14 the Manual? 15 A. If he didn't know how to 16 operate the bike, then I would suggest he had 17 a responsibility to read it. 18 Q. But if you thought he knew how 19 to operate it, it's okay with you that he 20 didn't read it? 21 A. I think it's a reasonable thing 22 that many reasonable people do often. 23 Q. But reasonable people do things 24 that they shouldn't do and they don't do</p>
<p style="text-align: right;">Page 242</p> <p>1 MR. LEVINE: To this case? 2 MR. HEINOLD: To this case. 3 THE WITNESS: But to causation 4 it's not, but the bike is still defective 5 without it. 6 BY MR. HEINOLD: 7 Q. Okay, I understand that. But 8 to causation it's not? 9 A. To causation, if he was aware 10 of the hazard, was thinking about it at the 11 time and recalled and made a decision, made a 12 conscious decision to disregard the 13 information he had, then the label wouldn't 14 have done anything except reinforce what he 15 read in the Manual. 16 Now, is it possible that by 17 reinforcing it it would have changed his 18 behavior, it's possible. Is it as likely as 19 if he didn't know when the warning was there 20 to tell him, I don't think it's -- we're 21 looking at degrees, that's similar of a 22 degree. 23 Q. If it was going to change 24 behavior he would do it because you already</p>	<p style="text-align: right;">Page 244</p> <p>1 things that they should do. 2 My question is not whether it 3 was reasonable to you to do, but does he have 4 a responsibility -- you're a warnings expert, 5 does the owner of the product, in this case a 6 motorcycle, have the responsibility to read 7 the Manual? 8 A. If he didn't know how to 9 operate the bike he should have read the 10 manual to find out how to operate it. 11 Q. And if he knew how -- if he 12 thought he knew how to operate it, then he has 13 no responsibility, in your opinion, to read 14 the manual? 15 A. I don't think so. 16 Q. Do you think that his failure 17 to read the manual if, in fact, he didn't read 18 the manual, gives him any responsibility for 19 this fire? 20 A. I don't think you can hold him 21 to be responsible for the fire when he wasn't 22 aware of the atypical, unique hazard 23 associated with the bike. 24 Q. But he might have been aware if</p>

<p>1 he read the manual?</p> <p>2 A. I doubt it.</p> <p>3 Q. He might have been?</p> <p>4 A. I doubt it.</p> <p>5 Q. I know you doubt it.</p> <p>6 A. It's my professional --</p> <p>7 Q. Are you certain of it?</p> <p>8 A. Within a reasonable degree of</p> <p>9 scientific certainty.</p> <p>10 Q. What does that mean?</p> <p>11 A. It means more likely than not</p> <p>12 that the information in the Manual was</p> <p>13 inadequate to convey the information that BMW</p> <p>14 North America is claiming they intended to</p> <p>15 convey.</p> <p>16 Q. That's 50.1 percent, right?</p> <p>17 A. Sure.</p> <p>18 Q. Are you more certain than that?</p> <p>19 A. I don't have to be.</p> <p>20 Q. So your answer is no?</p> <p>21 A. My answer is I don't have to</p> <p>22 be.</p> <p>23 Q. Are you more certain than 50.1</p> <p>24 percent? That's a yes or no. Either you are</p>	<p>Page 245</p> <p>1 there's some possibility that he would have</p> <p>2 understood it? And you said, Eventually, more</p> <p>3 likely than not. And I said, That means 50.1</p> <p>4 percent? And you agreed. And then I said,</p> <p>5 and this is the question, Are you certain</p> <p>6 beyond 50.1 percent? And you said, I don't</p> <p>7 have to be.</p> <p>8 A. Correct. So you want me to</p> <p>9 answer it again?</p> <p>10 Q. No. If that's your answer,</p> <p>11 then that's the one you're going to live with.</p> <p>12 Do you believe that the</p> <p>13 Plaintiff's failure, Mr. Yazdani -- let me</p> <p>14 start that over.</p> <p>15 Do you believe that Mr.</p> <p>16 Yazdani's failure to understand the features</p> <p>17 and characteristics of his motorcycle with</p> <p>18 regard to idling at a standstill gives him</p> <p>19 responsibility for this fire?</p> <p>20 A. You're going to have to do that</p> <p>21 one more time.</p> <p>22 Q. Do you believe that Mr.</p> <p>23 Yazdani's failure to understand the features</p> <p>24 and characteristics of his motorcycle with</p>
<p>1 or you aren't.</p> <p>2 MR. LEVINE: Just so when you</p> <p>3 use this against him later, he at least knows</p> <p>4 what question he's more than 50.1 percent.</p> <p>5 MR. HEINOLD: The one that</p> <p>6 we've been asking.</p> <p>7 MR. LEVINE: Whether or not Mr.</p> <p>8 Yazdani would have understood the risk if he</p> <p>9 read the manual? Is that the question?</p> <p>10 Because that's what I thought the question is.</p> <p>11 MR. HEINOLD: Yes.</p> <p>12 THE WITNESS: One more time,</p> <p>13 please.</p> <p>14 BY MR. HEINOLD:</p> <p>15 Q. The question is this: Let me</p> <p>16 preface the question with what you previously</p> <p>17 said so we can put it into context.</p> <p>18 I asked you were whether his</p> <p>19 failure to read the Manual gave him any</p> <p>20 responsibility for this fire, and you said,</p> <p>21 no, because he didn't know the risk. And I</p> <p>22 said, But could he have learned the risk if he</p> <p>23 read the manual? And you said, I doubt it.</p> <p>24 And I said, If you doubt it, that means</p>	<p>Page 246</p> <p>1 regard to idling at a standstill and the risk</p> <p>2 of fire gives him responsibility for this</p> <p>3 event?</p> <p>4 A. I don't think he's responsible</p> <p>5 for it.</p> <p>6 Q. Why not?</p> <p>7 A. Because BMW North America</p> <p>8 failed to provide adequate warning.</p> <p>9 Q. And does that excuse his</p> <p>10 failure to investigate the characteristics and</p> <p>11 features of his bike regarding the risk of</p> <p>12 fire at a standstill?</p> <p>13 A. How does he know to investigate</p> <p>14 it?</p> <p>15 Q. I get to ask the questions.</p> <p>16 A. I'm sorry. It's late in the</p> <p>17 day, excuse me. I don't know that he knows</p> <p>18 that he has to investigate it, that's why he</p> <p>19 haven't investigated it. And he doesn't know</p> <p>20 to investigate it because BMW North America</p> <p>21 failed to provide adequate warning.</p> <p>22 Q. Do you believe -- let's assume</p> <p>23 he read it, okay, and understood it, do you</p> <p>24 believe his failure to remember it gives him</p>

<p style="text-align: right;">Page 249</p> <p>1 any responsibility for the fire? 2 A. So you're asking me if his 3 failure to be human makes him responsible for 4 the fire? I don't think so. 5 Q. No, that's not what I'm asking. 6 A. Sure it is. 7 Q. That's your interpretation of 8 and your spin as a hired gun. 9 My question is: If he read it 10 and he understood it and he forgot it, does 11 that give him any responsibility for this? 12 A. It happens all the time. 13 Q. Is your answer no? 14 A. My answer is without adequate 15 warning he was not responsible for it. 16 Q. Is your answer no? 17 A. Without adequate warning his 18 responsibility would be no. 19 Q. Zero? 20 A. Sure. 21 Q. Okay. Do you believe that Mr. 22 Yazdani forgetting that his motorcycle was 23 running in his garage and going into his house 24 gives him any responsibility for this event?</p>	<p style="text-align: right;">Page 251</p> <p>1 second page. I got them, I'm sorry. 2 Q. Four pages? 3 A. Yes. 4 Q. What is that? 5 A. It's a publication entitled 6 Sound Rider. Well, it's a website called 7 Sound Rider, a motorcyclist enthusiast 8 website, and there's an article called Half 9 A\$\$ Winterization. 10 And basically, it's just an 11 explanation from the author as how he 12 winterizes his motorcycle and still allows him 13 to ride during the off season when it's a 14 little bit warmer. And his process is, you 15 know, essentially what Mr. Yazdani was doing 16 on the day of the incident. 17 And he notes that he once every 18 couple weeks let's the engine run for 15 to 20 19 minutes at least once a week during the cold 20 season even if you're not riding. 21 Q. Is that an air-cooled? 22 A. I don't think he ever 23 references whether it's air-cooled or 24 liquid-cooled.</p>
<p style="text-align: right;">Page 250</p> <p>1 A. Not without knowing the risk. 2 MR. HEINOLD: I'd like to get 3 those copies. 4 MR. LEVINE: Sure, let me do 5 that. 6 - - - 7 (Whereupon, a short break was taken at 8 this time.) 9 - - - 10 BY MR. HEINOLD: 11 Q. We took a break, you provided 12 me with some additional materials from your 13 notebook that you brought here. Let me just 14 ask you what some of these are. 15 MR. HEINOLD: You can mark this 16 as Vigilante-7. 17 - - - 18 (Whereupon, Exhibit Vigilante-7 was 19 marked for identification.) 20 - - - 21 BY MR. HEINOLD: 22 Q. I think these go together. It 23 looks like a website? 24 A. Yes, but I don't have the</p>	<p style="text-align: right;">Page 252</p> <p>1 Q. Okay. Anything else 2 significant about that? 3 A. No. You know, I just came 4 across an article in a rider enthusiast 5 website that explains what Mr. Yazdani was 6 doing. 7 Q. What is the next one? Do these 8 four pages go together? 9 A. Yes. 10 Q. And what is that? 11 MR. HEINOLD: Let's mark that 12 as 8. 13 - - - 14 (Whereupon, Exhibit Vigilante-8 was 15 marked for identification.) 16 - - - 17 BY MR. HEINOLD: 18 Q. Explain what Exhibit 8 is. 19 A. It's another website for 20 motorcycle enthusiasts. The one thing that I 21 noticed in here is that the author makes a 22 statement that most people say that 23 Harley-Davidsons never overheat. And then 24 there's some examples of one of the people</p>

<p style="text-align: right;">Page 253</p> <p>1 that commented, I don't know who it is, but 2 just an example of sitting in traffic in 3 Myrtle Beach and couldn't move and eventually 4 had to pull over and turn off because 5 the -- to cool the bike off.</p> <p>6 Another guy was noticing that 7 his VTX has a fan that comes on just like a 8 car to keep the cooling even at a stopped 9 light. That was just one of the things I ran 10 into.</p> <p>11 MR. HEINOLD: Let's mark this 12 as 9.</p> <p>13 - - -</p> <p>14 (Whereupon, Exhibit Vigilante-9 was 15 marked for identification.)</p> <p>16 - - -</p> <p>17 BY MR. HEINOLD:</p> <p>18 Q. How about the next one?</p> <p>19 A. The next one is from The 20 American Spectator. Looks like it's an 21 organization related to vehicles. The author 22 is a columnist for automotive and vehicle 23 related topics. It just gives a description 24 of air-cooled versus water-cooled engines.</p>	<p style="text-align: right;">Page 255</p> <p>1 the bike alone, no adding upgrades to the 2 pistons or what have you, simply change the 3 oil and filter every now and then you'll 4 probably never have any problems, period.</p> <p>5 Q. Anything else?</p> <p>6 A. No.</p> <p>7 Q. Is that a two-page article?</p> <p>8 A. I also attached the -- you see 9 in your hand right there, that's just his 10 Bio. You see the Author Bio here 11 (indicating)?</p> <p>12 Q. Okay.</p> <p>13 - - -</p> <p>14 (Whereupon, Exhibit Vigilante-10 was 15 marked for identification.)</p> <p>16 - - -</p> <p>17 BY MR. HEINOLD:</p> <p>18 Q. What's the next one?</p> <p>19 A. The next one is from a website 20 called Motorbike Writer. It's another website 21 for motorcyclists.</p> <p>22 Q. And what's the significance of 23 that?</p> <p>24 A. He just kind of gives a</p>
<p style="text-align: right;">Page 254</p> <p>1 You know, before I involved in his case I knew 2 my vehicle was air-cooled, but I assumed and 3 believed that the purpose of the oil was to 4 lubricate and to cool the engine. And that's 5 what he was stating -- that's what the author 6 is stating in this paper, that an air-cooled 7 engine is actually an air/oil cooler.</p> <p>8 And he also says that's why 9 mini bikes have external oil coolers and that 10 some of them have deep sump or additional 11 capacity oiling systems to prevent them from 12 overheating.</p> <p>13 Then he makes a statement that 14 if that an engine is well-designed and factory 15 stock and in good running order, usually will 16 not overheat. And then he says: However, if 17 the engine was not well-designed or it's been 18 modified to produce additional power, or is 19 not in good tune, running lean, for instance, 20 is more vulnerable to overheating to 21 heat-related damage.</p> <p>22 Q. Anything else significant about 23 that?</p> <p>24 A. He also says that if you leave</p>	<p style="text-align: right;">Page 256</p> <p>1 description of how people who have a tendency 2 to let their bike idle for a while and rev it 3 up to warm it up. And he states that 4 consistent with BMW that it's not good for the 5 engine.</p> <p>6 He says that older motorcycles 7 with carburetors and gluggy oils require a 8 long period of warming up, but today's fuel 9 injected engines with moderate sympathetic 10 oils can go straight after you push the 11 button. So he's just kind of giving an idea 12 of different motorcycles of different age, 13 different engine styles, some require longer 14 warm-up periods than others.</p> <p>15 Q. So these are -- the last 16 several Exhibits are general background 17 information, not something on what you 18 specifically rely for an opinion?</p> <p>19 A. Yes, just general background 20 information.</p> <p>21 Q. Is this part of the same 22 article or is that a separate one?</p> <p>23 A. I think that -- nope, you're 24 right. That's a different article.</p>

<p>1 MR. HEINOLD: We'll call that 2 Exhibit 11. 3 --- 4 (Whereupon, Exhibit Vigilante-11 was 5 marked for identification.) 6 --- 7 BY MR. VIGILANTE: 8 Q. Explain what Exhibit 11 is, 9 please. 10 A. Another website. This one is 11 revzilla.com. Revzilla is a large distributor 12 of aftermarket parts and motorcycle riding 13 accessories. And they're just giving their 14 understanding of the difference between 15 air-cooled and liquid-cooled. And they note 16 that they believe an air-cooled engine 17 operates in a water range of temperatures that 18 are considered normal. That's the other only 19 thing in there that I found interesting. 20 Q. Okay. Then we have a series of 21 photographs. Tell me what those are. Let's 22 break them down by vehicle if we can. 23 A. Yes, there's two sets then. 24 Well, actually, there's four sets. There's</p>	<p>Page 257</p> <p>1 bike manufacturer that put a warning on the 2 gas tank and then another warning on the 3 windshield. So just an example of a motorcycle 4 manufacturer putting warnings directly on the 5 bike itself. 6 Q. Those are actually the same 7 warnings as the prior photograph of Exhibit; 8 correct? 9 A. It's the same, same one? 10 Q. Same bike or -- 11 A. Same bike. 12 Q. I was looking for the other 13 Exhibit. Exhibit 6, is that the same -- it's 14 not the same bike? 15 A. Vigilante-12 is different than 16 Vigilante-6. 17 Q. Okay. But the warning is the 18 same. Is this the one I read from earlier? 19 A. Yes. 20 Q. We just didn't mark it? 21 A. Yes. There's two other 22 pictures in here and they just depict the 23 location of the oil sight glass, the right 24 side of the bike. And in the pictures you can</p>
<p>1 four pages of a blue Yamaha motorcycle. 2 Q. Okay. 3 MR. HEINOLD: We'll call that 4 Exhibit 12. 5 --- 6 (Whereupon, Exhibit Vigilante-12 was 7 marked for identification.) 8 --- 9 BY MR. HEINOLD: 10 Q. Is there a model or year 11 designated? 12 A. Yes. 13 Q. What is it? 14 A. It's a 1998 Yamaha YZF R1. 15 It's 1,000 CC motor. 16 MR. HEINOLD: I'm just going to 17 put a 1 on here because it didn't make it 18 through the copy on the Exhibit. 19 MR. LEVINE: Okay, sure. 20 BY MR. HEINOLD: 21 Q. Okay. What's the significance 22 of it? 23 A. Well, I took the pictures 24 because A, they're -- you know, it's a sports</p>	<p>Page 258</p> <p>1 see that when the bike is on its center 2 kickstand, which is -- you can see the oil 3 halfway up the oil sight glass. 4 Q. Which picture is that? 5 A. Let me pick it up for you. 6 There it is. 7 Q. I have a four-page Exhibit. 8 It's the last page? 9 A. The bottom one on the last 10 page. 11 Q. Is this upside down? 12 A. No. 13 Q. Are you looking at it correctly 14 or am I looking at it correctly? 15 A. This is the orientation of the 16 bike (indicating). 17 Q. Yeah, okay. 18 A. So the oil level is this dark 19 liquid here (indicating). So the top picture 20 and then the picture on the preceding page is 21 the bike on the left kickstand. You'll see 22 the oil is not in the oil sight glass. The 23 oil is on the left side of the engine. 24 Q. Okay. And we have some more</p>

<p>1 pictures?</p> <p>2 A. Yes, the next two pages are a</p> <p>3 BMW F800 GS 2010.</p> <p>4 Q. What's the significance of</p> <p>5 this?</p> <p>6 A. That's a 2010 BMW sport bike</p> <p>7 and they're using a dipstick on the left side</p> <p>8 of the crane case that's depicted in the top</p> <p>9 photograph.</p> <p>10 Q. Okay.</p> <p>11 - - -</p> <p>12 (Whereupon, Exhibit Vigilante-13 was</p> <p>13 marked for identification.)</p> <p>14 - - -</p> <p>15 BY MR. HEINOLD:</p> <p>16 Q. Then there's a one-page</p> <p>17 article?</p> <p>18 A. Yes, that is just stating that</p> <p>19 IIHS has categorized BMW R 1150 and the Yamaha</p> <p>20 YZF R1 as essential sport bikes or super sport</p> <p>21 bikes. The only reason I pulled that is just</p> <p>22 to show they're in the same classification as</p> <p>23 opposed to a cruiser type bike.</p> <p>24 Q. I'm not going to bother marking</p>	<p>Page 261</p> <p>1 BY MR. HEINOLD:</p> <p>2 Q. Now, the last area I want to</p> <p>3 cover is your comments and report on Mr.</p> <p>4 Breen's report. You had some criticisms of</p> <p>5 his report and his conclusions and</p> <p>6 inaccuracies.</p> <p>7 If it's all right with you, I'd</p> <p>8 like you just to take me through it, point out</p> <p>9 what they are and explain what it is.</p> <p>10 Would that be satisfactory for</p> <p>11 me to understand that?</p> <p>12 A. I can try.</p> <p>13 Q. Okay. If I have a follow-up</p> <p>14 I'll ask it.</p> <p>15 A. Let's go, the bottom of Page 3,</p> <p>16 he notes that when Yazdani purchased the</p> <p>17 motorcycle it was a used unit, he received and</p> <p>18 read this manual. And one of the things I was</p> <p>19 thinking is that I don't know that anyone ever</p> <p>20 established that Yazdani was given the</p> <p>21 R 1150 R, R850 Manual.</p> <p>22 In the deposition, his</p> <p>23 deposition they talk about it in generalities</p> <p>24 and then show him the manual, but I don't</p>
<p>1 that one, unless you --</p> <p>2 MR. LEVINE: No.</p> <p>3 BY MR. HEINOLD:</p> <p>4 Q. Then the last photos?</p> <p>5 A. The last photos are three</p> <p>6 different bikes, but they're all the BMW</p> <p>7 R 1100 RSL. So I believe this was the model</p> <p>8 bike that was involved in the NHTSA recall.</p> <p>9 - - -</p> <p>10 (Whereupon, Exhibit Vigilante-14 was</p> <p>11 marked for identification.)</p> <p>12 - - -</p> <p>13 BY MR. HEINOLD:</p> <p>14 Q. And that's it for the</p> <p>15 materials, right?</p> <p>16 A. Yes, you took the other Exhibit</p> <p>17 photos I had and marked those as Vigilante-6.</p> <p>18 Q. You need those back.</p> <p>19 MR. HEINOLD: Ken, can you make</p> <p>20 a copy of this Exhibit?</p> <p>21 MR. LEVINE: Yes.</p> <p>22 MR. HEINOLD: Whenever you get</p> <p>23 a chance.</p> <p>24 MR. LEVINE: Okay.</p>	<p>Page 262</p> <p>1 think they ever validated that's the manual</p> <p>2 all he received. And I did have a question</p> <p>3 about that so I marked that.</p> <p>4 On Page 4, second paragraph,</p> <p>5 Mr. Breen states that motorcyclists tend to be</p> <p>6 enthusiasts and into the sport of motorcycling</p> <p>7 and knowledgeable about the features of their</p> <p>8 motorcycles as well as competitor models. And</p> <p>9 he offers no proof to that statement, and it's</p> <p>10 generalized statement without any proof or</p> <p>11 insight into how much information people</p> <p>12 have.</p> <p>13 At the end of that paragraph he</p> <p>14 states: All of these activities tend to make</p> <p>15 motorcyclists more aware of their riding</p> <p>16 environment and the nature of their motorcycle</p> <p>17 compared to many average owners of passenger</p> <p>18 vehicles. And again, I noticed that's pure</p> <p>19 speculation and generalization. No proof to</p> <p>20 support that.</p> <p>21 Q. Okay. For the record, you're</p> <p>22 against pure speculation, generalization and</p> <p>23 no proof?</p> <p>24 A. Sure, I try to provide support</p>

<p>1 for all my opinions.</p> <p>2 Q. Okay, I just want to be sure.</p> <p>3 What's next?</p> <p>4 A. The next paragraph he states:</p> <p>5 On-product labeling has significant</p> <p>6 substantial to deteriorate.</p> <p>7 And although that is possible</p> <p>8 for poorly designed warnings, certainly many</p> <p>9 warnings on vehicles are designed to be a</p> <p>10 hardy and stand up to the elements as the 1998</p> <p>11 Yamaha YZF photos I produced show.</p> <p>12 He also states: There is a</p> <p>13 limited space available on motorcycles to</p> <p>14 provide label.</p> <p>15 And again, that's a half true</p> <p>16 statement. That certainly a motorcycle is not</p> <p>17 a tractor trailer with 53 feet of real estate,</p> <p>18 there's still significant space to add a</p> <p>19 label, depending upon the issue and where it's</p> <p>20 applicable. Then I also note that contrary to</p> <p>21 his two points, BMW North America added an</p> <p>22 on-product warning to deal with their recall</p> <p>23 defect.</p> <p>24 Page 6, top of the</p>	<p>Page 265</p> <p>1 potential for overheating, fire if motorcycle</p> <p>2 is allowed to run for prolonged periods in a</p> <p>3 clear and concise manner. This approach is</p> <p>4 consistent with the strategy to communicate</p> <p>5 similar information utilized by other</p> <p>6 motorcycle manufacturers, air-cooled engine</p> <p>7 vehicles, including Suzuki, Harley-Davidson</p> <p>8 and Yamaha. This approach is appropriate and</p> <p>9 consistent within the motorcycle industry and</p> <p>10 is safe and appropriate.</p> <p>11 And I note that Yamaha and</p> <p>12 Harley-Davidson do not require that you ride</p> <p>13 away immediately. So their approach -- BMW's</p> <p>14 approach is not consistent with Yamaha and</p> <p>15 Harley-Davidson as he states.</p> <p>16 Q. How about Suzuki?</p> <p>17 A. I don't know that I looked up</p> <p>18 the Suzuki manual.</p> <p>19 Q. Go ahead.</p> <p>20 A. In the third paragraph he</p> <p>21 states: Yazdani reportedly started his engine</p> <p>22 in the high idle choke position and then left</p> <p>23 the engine riding for approximately 30</p> <p>24 minutes.</p>
<p>1 paragraph --</p> <p>2 Q. Do you recall what Mr.</p> <p>3 Yeldham's explanation for that was?</p> <p>4 A. Explanation for what?</p> <p>5 Q. Adding the on-product warning</p> <p>6 to the motorcycle itself?</p> <p>7 A. Yes, it was to inform people of</p> <p>8 the potential fire hazard.</p> <p>9 Q. Okay. What's next?</p> <p>10 A. I'm sorry?</p> <p>11 Q. That's what you recall?</p> <p>12 A. That's what he testified. I</p> <p>13 was going to go to the page. He testified on</p> <p>14 Page 171: BMW AG decided to send out, put on</p> <p>15 label, on the bike itself to reduce the risk</p> <p>16 of fire occurring in bikes already on market.</p> <p>17 175: They added label because</p> <p>18 there was a risk of fire and they wanted to</p> <p>19 make the end user aware of the risk.</p> <p>20 Back to the report?</p> <p>21 Q. Yes.</p> <p>22 A. Page 6, top of Page 6 he</p> <p>23 states: The approach of -- the information</p> <p>24 provided in the manual addresses the issue of</p>	<p>Page 266</p> <p>1 This is two points. One is it</p> <p>2 was required to start it in the high idle</p> <p>3 choke position. And two, he forgot to add</p> <p>4 that the idle had to go down to detent,</p> <p>5 because to keep it in high you have to keep</p> <p>6 pressure on the choke switch, and when you</p> <p>7 release it it goes to detent. So it wasn't</p> <p>8 left in high idle. He kind of missed that</p> <p>9 point.</p> <p>10 He says: Leaving it go for 30</p> <p>11 minutes is well beyond a reasonable or normal</p> <p>12 warm-up period. But he misses the point that</p> <p>13 it's foreseeable.</p> <p>14 He say: The engine is not</p> <p>15 intended to be warmed up or operated in this</p> <p>16 manner. So he misses the point again that it</p> <p>17 is foreseeable to BMW.</p> <p>18 And he also says that: The</p> <p>19 engine will build up heat if left on full</p> <p>20 choke position for an extended period of</p> <p>21 time. Again, apparently doesn't realize that</p> <p>22 the choke switch had to move down to detent</p> <p>23 and not full choke after he released the choke</p> <p>24 button.</p>

<p>1 MR. LEVINE: You keep using the 2 term detent.</p> <p>3 THE WITNESS: Yeah, there's 4 a --</p> <p>5 MR. LEVINE: I just want you to 6 spell it.</p> <p>7 THE WITNESS: Oh, I'm sorry, 8 D-E-T-E-N-T.</p> <p>9 MR. LEVINE: Thank you.</p> <p>10 THE WITNESS: So he says at the 11 bottom of that section: The subject incident 12 was solely related to a situation in which 13 Yazdani did not follow his standard practice 14 and became mentally distracted.</p> <p>15 And I put the comment in 16 there: So it's okay for BMW to let his house 17 burn down and possibly kill or hurt someone 18 because he got distracted rather than fix the 19 design for him.</p> <p>20 Next section, he says: That 21 sight glass is easier to use. And my question 22 is, Says who? Dipsticks have been used for 23 decades. And then I've never seen any 24 research to suggest the sight glass is easier,</p>	<p>Page 269</p> <p>1 risk of sitting in traffic for that long.</p> <p>2 BY MR. HEINOLD:</p> <p>3 Q. Where was this? What 4 paragraph?</p> <p>5 A. That's the second from the 6 bottom (indicating).</p> <p>7 Q. Okay.</p> <p>8 A. Next paragraph he says: The 9 police fan kit is specifically designed for 10 motorcycles that will be used in a manner in 11 which they may be sitting idle for extended 12 periods of time to run equipment and/or 13 maneuvering at general low speeds. And it's 14 especially useful to riders such as patrol 15 officers who may be riding at slow speeds for 16 extended periods of time.</p> <p>17 And again, my point is riding 18 at low speeds for extended periods of time is 19 foreseeable, and obviously BMW knew it was 20 foreseeable because they provided an option 21 for some of their bikes.</p> <p>22 Top of Page 7: An air-cooled 23 engine --</p> <p>24 Q. Can I just stop you and ask you</p>
<p>1 and I never saw any research that said why 2 they needed to change to sight glass if it 3 introduces a new risk.</p> <p>4 He says: Air-cooled engines 5 and motorcycles have a long history of 6 successful and acceptable use. And I comment 7 that my air-cooled Harley-Davidsons with 8 dipsticks can be left idling for 30 minutes 9 without spraying hot oil into the environment 10 and causing a fire. And that to me would be a 11 good reason why air-cooled engines have 12 been -- have a long history of success in 13 acceptable use as opposed to the design of 14 this BMW engine.</p> <p>15 Later on in that paragraph he 16 says: The general concept is that when the 17 engine on the motorcycle is running, the 18 vehicle is moving, except during short periods 19 during warm-up or in traffic. He does not 20 define short.</p> <p>21 And I got to tell Mr. Breen 22 that I sat in traffic jams longer than 30 23 minutes, and prior to this case I never 24 thought that a potential fire was a potential</p>	<p>Page 270</p> <p>1 this question: You don't -- do you intend to 2 offer an opinion about the efficiency of the 3 police van kit?</p> <p>4 A. No, I'm going to leave that to 5 Mike Zazula.</p> <p>6 Q. Okay. Then I won't ask you 7 about that.</p> <p>8 A. Top of Page 7 he states: An 9 air-cooled engine on a motorcycle is widely 10 accepted and is not an unsafe or unreasonable 11 design configuration. My question is then 12 what makes the BMW different that a fire -- 13 the oil sight glass can fail causing fire.</p> <p>14 Next paragraph he says: The 15 system utilized by BMW is consistent with that 16 of the motorcycle industry and safe for the 17 intended purposes. And I note that it's not 18 even consistent with BMW's own practices 19 regarding the hazard.</p> <p>20 Q. That being the --</p> <p>21 A. The warnings.</p> <p>22 Q. -- the choke that you talked 23 about?</p> <p>24 A. The warning, the warning in the</p>

<p>1 manual.</p> <p>2 Q. You're saying it's not</p> <p>3 consistent with --</p> <p>4 A. BMW's practice regarding</p> <p>5 similar hazard.</p> <p>6 Q. I don't know what you mean by</p> <p>7 its own practice regarding similar hazard.</p> <p>8 Can you explain that?</p> <p>9 A. Sure. I apologize, the start</p> <p>10 of that paragraph goes into my report -- my</p> <p>11 report is primarily focused on allegations</p> <p>12 that the product information or warnings</p> <p>13 provided by BMW were inadequate and were the</p> <p>14 cause of this incident. And he's saying that</p> <p>15 this system utilized by BMW is consistent with</p> <p>16 that of motorcycle industry and safe for the</p> <p>17 intended purposes.</p> <p>18 And I'm saying it's not even</p> <p>19 consistent with BMW North America's practice</p> <p>20 regarding the similar type hazard. And, of</p> <p>21 course, that's the recall and their decision</p> <p>22 to place a warning on the bike regarding the</p> <p>23 fire risk of leaving it sit stationary.</p> <p>24 Q. Okay.</p>	<p>Page 273</p> <p>1 A. Warning Related Information.</p> <p>2 The second to the last sentence he says:</p> <p>3 There is always a significant question as to</p> <p>4 if any individual follow or heed any specific</p> <p>5 warning, sign or label. And we talked about</p> <p>6 this earlier in the deposition, and I note in</p> <p>7 his report that is why you eliminate by design</p> <p>8 or guard as preferred, particularly over a</p> <p>9 warning buried in a manual.</p> <p>10 The next paragraph he says:</p> <p>11 The common practice in the motorcycle</p> <p>12 industry, et cetera. And I note, again, he's</p> <p>13 failing to note that it's not consistent with</p> <p>14 BMW North America's own practice regarding a</p> <p>15 similar hazard risk.</p> <p>16 The next paragraph, the end of</p> <p>17 the paragraph he states: In terms of risk</p> <p>18 hierarchy an attempt to provide this</p> <p>19 information in the form of on-product label</p> <p>20 would not be appropriate. And I simply</p> <p>21 state: No, he is not following the safety</p> <p>22 hierarchy. If he was, he would recognize that</p> <p>23 eliminating the risk for alternative design,</p> <p>24 providing a guard and then an on-product</p>
<p>1 A. The next paragraph he gets into</p> <p>2 risk prioritization, and the risks that are</p> <p>3 the most significant in terms of frequency</p> <p>4 and/or severity should be given priority. I</p> <p>5 agree with that.</p> <p>6 However, what he forgets and</p> <p>7 doesn't deal with is that what also works its</p> <p>8 way into prioritization is the expected</p> <p>9 knowledge of the user and whether or not the</p> <p>10 hazard is created by something that is</p> <p>11 atypical or unique of that product as opposed</p> <p>12 to the rest of the industry.</p> <p>13 And in here we have a case</p> <p>14 where you have the potential for severe injury</p> <p>15 or death or property damage, which is the</p> <p>16 highest severity you can get. And you have</p> <p>17 everyone that gets on this is potentially</p> <p>18 exposed, and you have a very low expected</p> <p>19 knowledge, and it's not consistent with</p> <p>20 features of other bikes that don't get catch</p> <p>21 fire if allowed to sit and idle for 15, 20, 30</p> <p>22 minutes.</p> <p>23 Q. Tell me what the next paragraph</p> <p>24 begins with.</p>	<p>Page 274</p> <p>1 warning would be the appropriate way in which</p> <p>2 to follow the risk hierarchy.</p> <p>3 Q. The safety hierarchy being --</p> <p>4 A. Design.</p> <p>5 Q. Design, guard, warn?</p> <p>6 A. Yes.</p> <p>7 Q. Okay.</p> <p>8 A. The next paragraph is where he</p> <p>9 really comes off the boat. He says that: The</p> <p>10 risk of a fire due to the motorcycle being</p> <p>11 allowed to run without moving for prolonged</p> <p>12 periods is relatively low and has a relatively</p> <p>13 low severity. And it's the last part that I</p> <p>14 take exception with. Potentially killing</p> <p>15 somebody, burning down their house is the</p> <p>16 highest severity you can give to a hazard.</p> <p>17 How he can say it's relatively low is</p> <p>18 completely beyond me.</p> <p>19 Q. Okay. You're not aware of any</p> <p>20 personal injury, are you?</p> <p>21 A. Related to the oil sight glass</p> <p>22 failing?</p> <p>23 Q. Yes.</p> <p>24 A. No, but the potential is there.</p>

<p style="text-align: right;">Page 277</p> <p>1 Q. You're talking there simply 2 about potential?</p> <p>3 A. When you do your risk analysis 4 you're basing it upon potential. It's 5 inappropriate to wait and get the product in 6 the field and possibly kill somebody before 7 you decide whether or not it's a hazard you 8 should have dealt with through design.</p> <p>9 Q. Are there other risks with 10 regard to operating a motorcycle, a higher 11 risk potential?</p> <p>12 A. Well, there's more chance that 13 you can hurt yourself if you're going at a 14 high speed, but it's a different issue and a 15 different topic that what we're dealing with 16 here.</p> <p>17 Q. Well, I understand that, but if 18 you're looking at the comparison of the 19 various risks that come with being a 20 motorcycle owner --</p> <p>21 A. Well, here's the comparison, 22 because I was getting to that in the end of 23 that paragraph, the other risk associated with 24 letting it run idle is overheating.</p>	<p style="text-align: right;">Page 279</p> <p>1 are two different issues and they need to be 2 looked at separately.</p> <p>3 And the knowledge of motorcycle 4 riders or owners of this product need to 5 consider their knowledge with respect to the 6 potential for the glass to fail and the fire 7 to occur, not whether it's going to overheat 8 or not.</p> <p>9 The next page after the 10 pictures he says that: In addition, the 11 Service Bulletin can include a label to be 12 affixed to the front portion of the motorcycle 13 regarding the potential for overheating and/or 14 fire. And he's calling the recall Service 15 Bulletin. He says: An on-product advisory 16 label is not appropriate as this represents a 17 change in the information -- I'm sorry, it 18 says: An on-product advisory label --</p> <p>19 MR. LEVINE: She's trying to 20 understand. Try to keep her in mind while 21 you're answering the question.</p> <p>22 THE WITNESS: Okay. He says: 23 An on-product advisory label is not 24 inappropriate as this represents a change in</p>
<p style="text-align: right;">Page 278</p> <p>1 Overheating can cause problems to the 2 mechanical functioning of the bike, but it's 3 not going to burn your house down. So that 4 would be a less severe risk. Burning your 5 house down and potentially killing the 6 occupants of it is a very severe, most severe 7 hazard.</p> <p>8 So another point I wanted to 9 make with that is he says: That enthusiast 10 level motorcycle riders, and I don't know how 11 he defines enthusiast level, or whether 12 Yazdani was an enthusiast level, but 13 apparently they understand that an air-cooled 14 engine needs air flow to cool. When attended 15 there are other warnings to riders that the 16 motorcycle engine is overheating. These 17 warnings include radiating heat and 18 understanding the engine runs heat will 19 develop. And these are the warnings that he's 20 talking about, alert the rider to the fact 21 that the engine may overheat. It doesn't 22 alert them to the fact that the oil sight 23 glass is going to fail, allow hot oil to 24 escape and ignite and cause a fire. So there</p>	<p style="text-align: right;">Page 280</p> <p>1 the information provided to users for this 2 specific model. The Service Campaign was 3 based on a limited number of incidents and no 4 reported injuries. And I note it's the same 5 type of hazard. It's the same issue. The 6 rider is not aware of the risk of not riding 7 away immediately.</p> <p>8 And the argument for why it's 9 okay for the Service Bulletin/Recall to 10 include the label is completely contrary to 11 the same argument he just made on Page 7 as to 12 why it wasn't needed. That is, low risk, no 13 injury and people should know.</p> <p>14 So if there's low risk, no 15 injury, people should know, and that's why 16 it's not needed, as he argues on Page 7, how 17 does he argue that a low risk, no injury, 18 people should know, Page 8, it's okay to have 19 it an on-product warning. To me they appear 20 to be completely conflicting opinions.</p> <p>21 Q. Weren't there two different 22 issues involved with the motorcycle? He's 23 talking about with the on-product label in the 24 Service Campaign versus Mr. Yazdani's</p>

<p>1 motorcycle?</p> <p>2 A. The Recall Campaign was for a</p> <p>3 fire hazard associated with letting the bike</p> <p>4 sit at idle, stationary for an extended period</p> <p>5 of time.</p> <p>6 Q. And what was the specific</p> <p>7 hazard that was recognized?</p> <p>8 A. It was a fire hazard. That was</p> <p>9 the hazard.</p> <p>10 Q. That's very general. That</p> <p>11 wasn't my question. What was the specific</p> <p>12 issue that was going to cause the fire?</p> <p>13 A. The fire was going to be caused</p> <p>14 by letting the bike sit idle for an extended</p> <p>15 period of time having the exhaust eat up and</p> <p>16 potentially igniting the fairing. Regardless</p> <p>17 of the underlying mechanism of the fire, the</p> <p>18 risk is still the same. If you let the bike</p> <p>19 sit at a standstill for a prolonged period of</p> <p>20 time you get a fire. It's the same hazard,</p> <p>21 fire hazard.</p> <p>22 Q. On Mr. Yazdani's bike what is</p> <p>23 the risk of catching the lower fairings on</p> <p>24 fire?</p>	<p>Page 281</p> <p>1 to eliminate hazards through design to provide</p> <p>2 safeguards so you don't have to rely upon the</p> <p>3 weakest link in the chain, that is the human</p> <p>4 and all their frailty.</p> <p>5 Two, warnings are used to</p> <p>6 overcome distraction. Most typically audible</p> <p>7 warnings are used to grab a person's attention</p> <p>8 who's attention is focused elsewhere. That's</p> <p>9 the whole intent and purpose of the warning.</p> <p>10 Q. Is an audible warning practical</p> <p>11 in this circumstance?</p> <p>12 A. I didn't assess whether or not</p> <p>13 it was practical. Is it possible, I think</p> <p>14 that if you give me a second there was an</p> <p>15 expert in the Amsdale vs. BMW North America</p> <p>16 that opined that they could have provided an</p> <p>17 indicator light on the master -- excuse me,</p> <p>18 the -- it says, I'll read it. I'm a little</p> <p>19 bit tied up with my words at the moment, I</p> <p>20 apologize: The model R 1150 GS has a</p> <p>21 well-designed warning panel with lights</p> <p>22 including a master warning light and an oil</p> <p>23 temperature gauge. However, there was no</p> <p>24 reference on the panel to as what the oil</p>
<p>1 A. There is no lower fairing.</p> <p>2 Q. The risk would be --</p> <p>3 A. The risk would be the oil sight</p> <p>4 glass failing.</p> <p>5 Q. The risk of that would be zero;</p> <p>6 correct?</p> <p>7 A. The risk of the fairing</p> <p>8 catching on fire would be zero, but the</p> <p>9 hazards --</p> <p>10 Q. So that risk is different than</p> <p>11 the risk of the oil sight glass failure;</p> <p>12 correct?</p> <p>13 A. It's the same hazard and the</p> <p>14 same behavior of the operator that's</p> <p>15 associated with the hazard. The ignition</p> <p>16 scenario may differ, but it's the same</p> <p>17 result. You have a fire to an unattended or</p> <p>18 maybe even it's an attended motorcycle that's</p> <p>19 allowed to sit at a standstill.</p> <p>20 He states in the next</p> <p>21 paragraph: A warning was never intended nor</p> <p>22 can warning address issues related to</p> <p>23 distraction. Two points there. Number one,</p> <p>24 the potential for distraction is why you want</p>	<p>Page 282</p> <p>1 temperature reading should be to indicate to a</p> <p>2 rider that his or her engine is up to a safe,</p> <p>3 operating temperature and he or she should</p> <p>4 turn off the choke and drive away.</p> <p>5 Q. Does that have any relevance in</p> <p>6 Mr. Yazdani's situation?</p> <p>7 A. Well, it -- the reason I</p> <p>8 brought it up was that you said it would be</p> <p>9 impractical or not feasible to put an audible</p> <p>10 indicator in this case.</p> <p>11 Q. No. I asked if it was.</p> <p>12 A. And my response was that</p> <p>13 apparently there's another expert that felt it</p> <p>14 was possible to include an indicator light to</p> <p>15 monitor the heat of the engine. If you can</p> <p>16 put an indicator light to monitor the heat of</p> <p>17 the engine, you can put an audible indicator</p> <p>18 in conjunction with it. That was the point I</p> <p>19 was trying to make.</p> <p>20 Q. Are you advocating that here?</p> <p>21 A. No, I'm not, but you asked.</p> <p>22 Q. Okay.</p> <p>23 A. And I was also pointing out the</p> <p>24 fact that his statement that warning was never</p>

<p style="text-align: right;">Page 285</p> <p>1 intended or can warning address issues related 2 to distraction is just plain wrong.</p> <p>3 Q. Well, the way we got on this 4 audible warning is because you said it's wrong 5 because you could put an audible warning on 6 there and we do it all the time. And then I 7 said, Are you advocating that? And then you 8 went to the other expert. So you brought up 9 the audible warning.</p> <p>10 And now I'm asking you: Are 11 you advocating that?</p> <p>12 A. If it's feasible, absolutely.</p> <p>13 Q. Are you advocating that in this 14 case? It's not in your report.</p> <p>15 A. I'm not aware of anybody 16 advocating the audible warning. The point I'm 17 making is that he made an incorrect statement, 18 he made a false statement, and I was pointing 19 out why it was false, why warnings are used to 20 capture the attention of people who may 21 otherwise be distracted.</p> <p>22 I pointed out that another 23 expert thought you could put an indicator 24 light onto this bike to alert people to an</p>	<p style="text-align: right;">Page 287</p> <p>1 risks, unnecessary risks to the product. That 2 means it is not reasonable.</p> <p>3 Finding 3, he says: The manner 4 in which BMW provided information is 5 consistent with that in the motorcycle 6 industry. I just point out that it's not 7 consistent with BMW North America's own action 8 regarding a similar issue.</p> <p>9 Number 4: There's no need to 10 provide an on-product warning label that 11 indicates that the engine if run without 12 moving for a prolonged period of time, that 13 the engine can overheat and may result in a 14 fire. Potential for engine overheating is 15 common knowledge. My point is that it's not 16 common knowledge that the oil sight glass is 17 going to fail and cause a fire.</p> <p>18 Number 5, he says: That is not 19 the situation that would have been prevented 20 with an on-product label. And I counter the 21 fire occurred because Yazdani didn't know that 22 leaving the bike idle stationary could cause 23 the oil sight glass to fail and cause a fire.</p> <p>24 Had they provided an adequate warning on the</p>
<p style="text-align: right;">Page 286</p> <p>1 overheat condition. And if you can put the 2 indicator light on, you can put an audible 3 warning on it.</p> <p>4 At the end of that paragraph he 5 says: This would not have impacted him 6 because -- this would not have impacted him 7 becoming distracted.</p> <p>8 And my comment was he misses 9 the point, it has nothing to do with him being 10 distracted, because it would have prevented 11 him from starting it and letting it idle in 12 the first place.</p> <p>13 His findings, Finding Number 2, 14 he states: Configuration of the motorcycle, 15 including the air-cooled engine and oil sight 16 glass is an appropriate design and does not 17 pose an unreasonable risk. And I say that's 18 false. It's a design that introduced a risk 19 that doesn't exist with the dipstick, 20 including the dipstick on my Harley-Davidson 21 that won't fail and spray hot oil from the 22 engine and cause a fire.</p> <p>23 So you've introduced a feature 24 that may have some benefits, but it introduced</p>	<p style="text-align: right;">Page 288</p> <p>1 bike he would have been alerted to it, 2 informed of it and complied with it.</p> <p>3 Q. Are you aware of any advantages 4 that the sight glass, oil sight glass might 5 have over a dipstick?</p> <p>6 A. I think that it's provided so 7 that you get a reading without having to 8 remove the dipstick, and potentially to get 9 oil dripping on the surface of the bike.</p> <p>10 Q. Anything else?</p> <p>11 A. I think that's the only thing I 12 recall being mentioned.</p> <p>13 Q. So you're relying on what he 14 said rather than your independent knowledge of 15 the design of a motorcycle for that; correct?</p> <p>16 A. Yes, I didn't see a real 17 benefit of it other than you don't have to 18 pull the dipstick out. But then, again, I 19 check my oil sitting on my bike. To do it 20 with an oil sight glass I got to stop, get off 21 the bike and check the oil I don't really see 22 the benefit of it. If there's another 23 benefit, I'm not aware of it.</p> <p>24 Q. What's the consequence of oil</p>

<p>1 dripping onto the engine?</p> <p>2 A. Well, first of all, if it drips</p> <p>3 on the engine it's probably just going to burn</p> <p>4 off. But typically, the dipstick is in the</p> <p>5 oil pan. On my Harleys they're on the right</p> <p>6 side of it behind the engine. They may drip</p> <p>7 on the chrome, but I can wipe it off. They</p> <p>8 may drip on the exhaust, but I can wipe it</p> <p>9 off.</p> <p>10 Q. What if the exhaust is real</p> <p>11 hot?</p> <p>12 A. It's not that big of a deal.</p> <p>13 Q. Any disadvantages of the use of</p> <p>14 a dipstick?</p> <p>15 A. Well, I think that's what they</p> <p>16 said, the advantage was that you don't have to</p> <p>17 worry about getting oil on things. I mean,</p> <p>18 we're talking about a dipstick. We're not</p> <p>19 talking about a fountain of oil coming out of</p> <p>20 this thing.</p> <p>21 Q. Anything else?</p> <p>22 A. There shouldn't be a whole lot</p> <p>23 of oil dripping off of it. Yeah, I'm not</p> <p>24 aware of anything else offhand.</p>	<p>Page 289</p> <p>1 A. I don't know. I pointed to</p> <p>2 that Yamaha YZF as an example of the</p> <p>3 manufacturer putting it on the right side.</p> <p>4 And again, the oil is checked when the bike is</p> <p>5 upright, not leaning on its left side</p> <p>6 kickstand.</p> <p>7 Q. Are you intending to offer the</p> <p>8 opinion in your discussions about this</p> <p>9 motorcycle that the product is defective</p> <p>10 because it uses an oil sight glass, or is that</p> <p>11 going to be left to somebody else?</p> <p>12 A. Yes. Again, it's my assumption</p> <p>13 that the hazard is created by the use of the</p> <p>14 oil sight glass and the makeup of the oil</p> <p>15 sight glass, the material they chose. And I'm</p> <p>16 relying upon Mark Yeldham for that testimony.</p> <p>17 Q. But you're not --</p> <p>18 A. And Mike Zazula.</p> <p>19 Q. But you're not going to offer</p> <p>20 that opinion in terms of product defect,</p> <p>21 whether it is or isn't defective without -- I</p> <p>22 think we're clear, you're going to describe it</p> <p>23 as a characteristic that has this potential</p> <p>24 consequence and therefore --</p>
<p>Page 290</p> <p>1 Q. Any advantages or disadvantages</p> <p>2 of having a sight glass on one side of the</p> <p>3 engine or the other, and if so, what it's</p> <p>4 depended on?</p> <p>5 A. I'm not aware of the advantages</p> <p>6 or disadvantages of having it on -- I'm not</p> <p>7 aware of the advantages of having it on the</p> <p>8 left side. It's my understanding the oil is</p> <p>9 supposed to be checked with the bike on the</p> <p>10 center stand, not the left side, so that the</p> <p>11 engine is level.</p> <p>12 So if you had it on the right</p> <p>13 side, in the same position on the right side</p> <p>14 as you could, and I'm not saying you could,</p> <p>15 but if you had it on the right side and you</p> <p>16 checked it on the center stand it shouldn't</p> <p>17 make a difference.</p> <p>18 If it's something unique to the</p> <p>19 way they designed that engine, you know, it's</p> <p>20 possible. I don't know offhand. I haven't</p> <p>21 seen anybody explain from BMW why it's on the</p> <p>22 left side, not the right side.</p> <p>23 Q. But you don't have an</p> <p>24 explanation one way the other?</p>	<p>Page 292</p> <p>1 A. I'm going to characterize it as</p> <p>2 a defect that allows the risk, fire risk to</p> <p>3 exist.</p> <p>4 Q. Are you -- all right. Do you</p> <p>5 consider any motorcycle that uses an oil sight</p> <p>6 glass defective?</p> <p>7 A. I don't, but I don't know of</p> <p>8 any others that have this type of melting</p> <p>9 point with it being placed on the left side of</p> <p>10 the crank case and having the hot oil touch it</p> <p>11 and being the reason why it's deformed.</p> <p>12 Q. Do you know what the design of</p> <p>13 the seal around any other oil sight glass is?</p> <p>14 A. I do not.</p> <p>15 Q. Is it your opinion that if an</p> <p>16 oil sight glass is on the left side of the</p> <p>17 engine that the motorcycle is defective</p> <p>18 because of that?</p> <p>19 A. Not necessarily because it's on</p> <p>20 the left side of the engine, but if it's going</p> <p>21 to be on the left side of the engine and</p> <p>22 deformed when exposed to foreseeable</p> <p>23 temperatures, that is a design defect.</p> <p>24 Q. And you define foreseeable</p>

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1 temperatures as what?
 2 A. Well, the report of fire is
 3 anywhere from 10 minutes to 30 minutes.
 4 Q. Anything else?
 5 A. No.
 6 Q. Have we fairly covered the
 7 opinions that you're intending to express in
 8 the trial of this case?
 9 A. I don't -- I can't think of
 10 anything that we missed.
 11 Q. Okay. Have we fairly covered
 12 the basis for your opinions?
 13 A. I can't think of anything that
 14 we missed.
 15 MR. HEINOLD: Okay, we're done.
 16 Thank you.
 17 THE WITNESS: I would like to
 18 read and sign.
 19 - - -
 20 (Whereupon, the deposition was
 21 concluded at 4:50 p.m.)
 22 - - -
 23
 24

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1 C E R T I F I C A T E
 2 I, Debra J. Veneziale, a Court Reporter
 3 and Notary Public, do hereby certify that the
 4 proceedings, evidence, and objections upon the
 5 deposition of WILLIAM J. VIGILANTE, JR., PhD,
 6 CPE are contained fully and accurately in the
 7 stenographic notes taken by me upon the
 8 foregoing matter on March 15, 2016, and that
 9 this is a true and correct transcript of the
 10 same.

11

12

13 _____
 14 Debra J. Veneziale
 Court Reporter
 Notary Public
 My Commission Expires
 15 July 16, 2019

16

17

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 20 transcript does not apply to any reproduction
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 22 direct control and/or supervision of the
 23 certifying shorthand reporter.)

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VIGILANTE FORENSIC

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Report of: William J. Vigilante, Jr., PhD, CPE

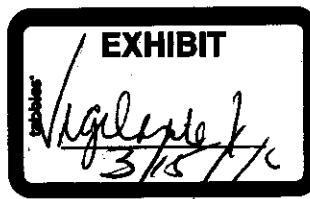
Date: January 29, 2016

Case Caption: Parvez & Razia Yazdani
Vs.
BMW of North America

VF Case Number: 15-004

Prepared for: Patrick A. Hughes
de Luca Levine, LLC
Three Valley Square, Suite 220
512 E. Township Line Road
Blue Bell, PA 19422

200 Pembrooke Circle
Phoenixville, PA 19460



www.vigilanteforensic.com

Exhibit B

Tel: 267.439.1551
bill@vigilanteforensic.com

- Service records, Bates No. Yazdani000896 to Yazdani000969
- Report of Bradley A. Schriver, dated 12/20/2015
- Report of Michael Zazula, dated 1/29/2016

C. PRODUCT DESCRIPTION

The fire involved a BMW model R1150 R motorcycle (VIN WB10439A64ZF49253). The motorcycle was manufactured by Bayerische Motoren Werke (BMW) AG in Germany in 2004. BMW Group is a subsidiary of BMW AG (MY, 49). BMW of North America (BMW NA) is a part of BMW Group (MY, 49). BMW NA is the wholesale distributor of BMW motorcycles in the United States (MY, 56). BMW NA only sells motorcycles to authorized BMW dealerships (MY, 56,57).

The BMW R1150 R motorcycle was manufactured for model years 2000 to 2006 and was discontinued in 2007 (MY, 62,63). The BMW R1150 R motorcycle has an air/oil cooled twin cylinder engine (MY 58,59). 1150 designates the approximate size of the engine in cubic centimeters (MY, 60). BMW also offered an 850cc engine version of the motorcycle (e.g., R850R). An 89 page Rider's Manual is provided with the sale of a new motorcycle. The motorcycle possess five on-product warning labels (MY, 157).

The BMW R1150 R motorcycle is fuel injected with a manual choke (MY, 70-72). The choke is used to increase the engine speed (i.e., RPM) to assist in warming up the engine faster and more efficiently (MY, 72). The choke is controlled by a switch located on the left handlebar (MY, 70-72). The switch has three positions: off, detent, and press and release (full) (MY, 70,72). The full choke position increases the engine speed (RPM) more than the detent position (MY, 72).

The BMW R1150 R engine has an oil sight glass located on the left, front side of the crank case (MY, 96,97,102,103). The oil sight glass possesses a seal and a clear plastic cover with markings that allows the rider to check the level of oil in lieu of a dip stick (MY, 96,97). The plastic cover of the oil sight glass fails (i.e., melts, deforms) at a temperature of 329°F (MY, 107,109). The oil sight glass seal can also fail at elevated engine temperatures (MY, 106).

D. BACKGROUND AND INCIDENT DESCRIPTION

Parvez Yazdani and his family live in a single family home located at 1200 Windsor Road, Mechanicsburg, PA. Yazdani purchased the house in 2000/2001 (PY, 87). The home has an attached two car garage (PY, 16,18).

In April 2011, Parvez purchased a used BMW R1150 R motorcycle from a private owner (PY, 10,48). Parvez was given a manual when he purchased the motorcycle (PY, 6). Parvez read the manual after purchasing the motorcycle (PY, 7,10,22). Parvez parked the motorcycle in his garage (PY, 16,18).

Parvez had previously owned a Yamaha motorcycle that he purchased used in 1981 or 1982 (PY, 37,38). Parvez owned the Yamaha motorcycle for about 20 years (PY, 40). Parvez rode the Yamaha for recreation and always liked motorcycles (PY, 39,40). Parvez had also ridden other motorcycles and scooters in the past (PY, 35-37,53). Parvez did not take any motorcycle classes or subscribed to any motorcycle magazines (PY, 56,58).

Parvez testified that he decided to purchase the BMW R1150 R after researching motorcycles on the internet and based upon his ownership of BMW passenger vehicles (PY, 42,43,48). Parvez's purchase decision was also based on cost, bike weight, and whether the motorcycle was shaft or chain driven (PY, 9,42,43,45,46). Parvez did not care nor was he aware if the motorcycle was air-cooled or liquid-cooled (PY, 9,49,50,60).

Parvez was aware that the motorcycle had a two stage choke that he read about in the manual that he was given with the motorcycle (PY, 51,52). When Parvez started the motorcycle cold, he would hold the choke switch in the full position (PY, 51,52). Once the engine warmed up enough he would release the choke lever into the detent position (PY, 51,52). When he was satisfied that the engine was running fine he would turn the choke off (PY, 51,52).

Parvez did not winterize the motorcycle and would periodically start it one or two times a week to let the engine warm up and to keep everything running during the colder months (PY, 14-16,64). Typically, Parvez let the engine run seven to nine minutes with the motorcycle stationary while he smoked a cigarette (PY, 64).

At about 3:25 PM on February 25, 2013, Parvez started the motorcycle in his garage to warm up the engine (PY, 9,10). Parvez left the engine run while the motorcycle was stationary (PY, 9,14). While the engine was idling, Parvez got distracted, and went into the house (PY, 64,65). About 30 minutes after starting the motorcycle, the smoke alarms in his home went off and Parvez ran out to the garage where he found the bike on fire (PY, 64,65,68,69,77, 99,100). Parvez testified that the fire was coming from the motorcycle's engine and that the engine was no longer running (PY, 70,71). Yazdani also testify that there was oil on the garage floor from the motorcycle (PY, 70). A neighbor called 911 (PY, 72).

Bradley Shriver, plaintiff's fire origin and cause expert, investigated the fire. Within his December 20, 2015 report, Mr. Shriver concluded that the BMW R1150 R motorcycle was the ignition source of the fire. In his January 29, 2016 report, Michael Zazula, plaintiff's certified fire and explosion investigator, concluded that the fire was caused by an overheating condition from the motorcycle being left running in a stationary position, which caused the failure of the oil sight glass or sealing material allowing hot engine oil to escape and contact the exhaust header pipe and ignite.

Mark Yeldham is the Special Product Investigation Manager for BMW NA and testified as BMW NA's corporate designee in this matter (MY, 4,10,11). Mark Yeldham also investigated the fire.

Mark Yeldham concluded that the fire was a result of a failure of the oil sight glass consistent with the conclusions of Shriver and Zazula (MY, 129,130).

E. ANALYSIS

E.1. BMW NA Failed to Provide Adequate Warning.

BMW NA was aware of the potential fire hazard created by warming up the engine with the motorcycle at a standstill (MY, 177). For example, the copyrighted 2002, BMW R1150 R Rider's Manual notes:

WARNING:

Do not warm up the engine with the motorcycle at a standstill – risk of overheating or fire!
Ride way immediately after starting the engine.

Mark Yeldham testified that if a BMW R1150 R motorcycle is left idling in a stationary position, the oil sight glass cover can fail and cause a fire (MY, 155,177). Because the engine is air-cooled, heat can build up in the engine when the motorcycle is stationary. As the engine temperature increase, the oil temperature can increase to a level that will cause the oil sight glass cover and/or its seal to fail (MY, 113). If the oil sight glass cover/seal fails, extremely hot oil will be released from the engine (MY, 111,112). The oil will drip down, splash out, and vaporize (MY, 111-123). The released oil vapor can ignite when it comes into contact with the motorcycle's exhaust header and start a fire (MY, 111-113,123,127,128).

Although they were aware of the potential fire hazard created by warming up the engine with the motorcycle at a standstill, BMW did not provide any device on their R1150 R motorcycle to prevent the engine or exhaust from overheating (MY, 201,202). For example, in his January 29, 2016 report, Michael Zazula noted that BMW NA sold an optional fan kit to reduce engine temperature while the motorcycle was running/idling while standing still. Zazula also concluded:

In addition, the "optional police fan kit" should have been installed on the subject motorcycle as a standard equipment when manufactured/sold. It is clearly evident based upon the history of overheating of this motorcycles and usage within traffic or extended idling periods, this is a foreseeable event. Installing this BMW fan kit would have most likely prevented this incident.

Rather than implementing any design changes or adding any safeguards to prevent a fire, BMW NA chose to rely solely on the user recognizing the importance of riding away immediately after the motorcycle has been started. To alert and inform riders of the fire hazard and the need to immediately ride away after starting the motorcycle, BMW NA relied on their dealers to instruct the purchaser of a new motorcycle on the proper starting method and the use of warnings presented in the motorcycle's manual.

BMW NA requires their authorized dealers to train their sales people (MY, 76). The training includes how to deliver a new motorcycle to a customer (MY, 74). The delivery process includes instructing the rider on how to properly start the motorcycle (MY, 74). However, relying upon instructions given to the original owner of the motorcycle is not an adequate method to ensure that critical safety information reaches all users of the motorcycle including subsequent owners.

BMW NA was aware that their motorcycles are often re-sold by the initial owner (MY, 91). For example, the incident motorcycle was purchased and re-sold on prior occasions before Yazdani bought it. BMW NA was also aware that subsequent owners of the motorcycle were not likely to be provided with adequate instruction on the operation of the motorcycle (MY, 91). For example, Mark Yeldham testified (MY, 91):

Yes. That's the vehicle -- the Owner's Manual becomes the publication that the used – the purchaser of the used motorcycle relies on to learn how to operate it, unless he asks and the seller spends time showing him how to operate it. But there again, that person is not trained by anybody to teach how to operate it.

If the subsequent owner is not provided with proper instruction and warning from a BMW NA trained representative when they purchase the motorcycle they will have to learn about the fire hazard created by warming up the engine with the motorcycle at a standstill from another source. BMW could not reasonably rely on dealer-provided training to alert, inform, and remind all potential users of the motorcycle of the fire hazard created by attempting to warm up the engine with the motorcycle at a standstill.

BMW motorcycles are sold with a Rider's Manual (i.e., product manual) when purchased new. The BMW R1150 R Rider's Manual instructs the reader on how to start the motorcycle and warns of the risk of fire if the engine is allowed to warm up at a standstill. With respect to the purchase of used motorcycles, BMW NA relies solely upon their Rider's Manual to communicate the features of the bike to secondary owners (MY, 91).

However, it is not reasonable for BMW NA to rely solely on a Rider's Manual to communicate critical safety related information and warnings to secondary owners of their R1150 R motorcycle (1-6). Critical warning and safety instructions must be provided where and when the information is needed and where the information is most likely to be encountered and seen (e.g., conspicuously and permanently placed on the motorcycle) (1-6). Often product manuals will not be read, read in their entirety, or may not be available at a later date or at all (2,3,5,7-11). For example, warnings research has shown that product users:

- Do not have the manual available for second hand products (9);
- Are less likely to read manuals for products they do not perceive as complex (7,11);

- Are less likely to read manuals when they believe they know how to use the product; that the manual will not be helpful or provide useful information; or it is quicker to learn about the product by using it (8);
- Often do not read the entire manual and only refer to sections of the manual that are of interest (7); and
- Believe hazardous products should have warnings located in close proximity to the product (10).

Consistent with the research cited above, BMW NA was aware that purchasers of used motorcycles may not always receive the Rider's Manual. For example, when discussing motorcycles sold between private parties, Mark Yeldham testified "One can only hope that they sold the bike and the Owner's Manual is still there." (MY, 91). "Hoping" is not a reasonable way to ensure that critical safety related information and warnings are communicated to second hand users of a product.

Furthermore, warnings presented in a Rider's Manual are likely to be overlooked, not encoded in memory, and/or forgotten during future operation of the motorcycle. For example,

- A warning presented in a multi-page manual can go unnoticed or overlooked when presented with additional, unrelated, and/or more interesting information (1-3,5,7,8,12);
- If the warning is read, the reader may not encode the information into their long term memory due to overload from all of the other information presented in the manual (2,3);
- Safety information that is read and encoded into long term memory is subject to decay and forgetting over time particularly if it is not relevant to the typical use of the product (2,3,12).

The Rider's Manual provided with the BMW R1150 R motorcycle is 89 pages long and presents information on a wide variety of topics including the motorcycle's features, operation, and maintenance. Within the 89 page Rider's Manual, there are only two references to the potential fire hazard associated with allowing the motorcycle engine to warm up at a standstill and the need to immediately ride away upon starting (pages 51 and 60). Given the amount of other, unrelated information and topics, it was foreseeable to BMW NA that riders would (a) overlook the warnings, (b) not encode the warnings, and/or (c) subsequently forget the warnings.

The BMW Rider's Manual's failure to provide adequate warning is evident in the testimony of Parvez Yazdani. Parvez testified that he received and read the manual that he was given when he purchased the incident BMW motorcycle. However, Parvez also testified:

- He read the manual basically to learn about things like type of engine, brake oil, level of oils, how to adjust control levers, how to adjust the suspension, and how to make sure proper maintenance was done (PY, 8,10).
- He read the manual but he does not recall if he read the warnings regarding leaving the engine idle at a standstill (PY, 22-24).
- If he read the warnings in the manual, he does not recall reading them (PY, 22).
- He did not recall any warnings from the manual at the time he started the motorcycle (PY, 21).

A critical purpose of a product warning is to ensure the operator is aware of important safety information at the time and location it is needed (1-6,12). However, the BMW Rider's Manual has the disadvantage of typically not being available or used during subsequent or later uses of the motorcycle. A consequence of this expected nonuse of the Rider's Manual is that the warnings previously read in the manual are of no use to the rider if they are not thinking about it at the time the safety information is needed because they are focused on something else or simply forgot (2,3,12). For example, Parvez testified that he read the manual he was given with the motorcycle when he purchased it (PY, 22-24). However, Parvez also testified that when he was starting the motorcycle on the day of the fire he was not thinking about the warnings in the manual, he did not remember any warnings he may have read in the manual, and was not aware of the risk of letting the motorcycle run at a standstill (PY, 14,20,21).

Effective warnings not only inform people of information they were not previously aware of but also remind users of critical safety information that they may have previously learned or encountered at the time and location the information is needed (2,12). The use of product warnings as a cue or reminder at the time and location the information is needed is related to the distinction between knowledge versus awareness (12). For example, Laughery and Hammond provided the following discussion on the importance of knowledge versus awareness in the design and use of product warnings in their introductory chapter to the textbook *Warnings and Risk Communication* (12):

The distinction between knowledge and awareness is important in understanding issues of risk perception and how they map on to the design and effectiveness of warnings. The difference is analogous to a distinction made in cognitive psychology between short term memory (this may be thought of as what is in consciousness) and long term memory (one's more permanent knowledge of the world). The point is simply that people may have information or experiences in their overall knowledge base that at any given point in time is not what they are thinking about (i.e., they are not aware of or conscious of that information). In the context of dealing with hazards, it is not enough to say that people know something. Rather it is critical that people be aware of (thinking about) the relevant information at the right time. This distinction has significant implications for one of the important functions of warnings: they serve as reminders or cues which help access that information stored in memory.

There are multiple reasons why a product user may not remember a critical warning that they may have read or encountered in the past including distraction, inattention, interference, hurrying, stress, forgetting, etc. (2,3,12). Fundamental safety considerations to overcome these basic human factors is to eliminate the hazard through design, minimize the hazardous consequences of the user's actions, provide necessary safe guards, and/or provide salient cues where and when needed to draw the user's attention to the potential hazard and the actions necessary to avoid the hazard (2,3,12).

On-product warnings are typically relied upon to overcome the shortcomings of warnings presented in product manuals (1-6,12). For example, on-product warnings are typically presented where and when the information is needed, are designed and formatted to draw attention and standout from clutter and other information, and are used as a cue to remind users of information they may have learned before but were not currently thinking about (1-6,12). On-product warnings are also a reliable way of ensuring critical safety related information is available to secondary owners/users compared to "hoping" that they are given a manual when purchasing the motorcycle second hand.

Consistent with the benefits of on-product warnings, standards and guidelines for the design of effective warning systems recommend that critical warning information be presented on the product to ensure the information is seen, read, and heeded at the time and location it is needed. For example, ANSI Z535.4, *Product Safety Signs and Labels*, provides the following recommendation for the placement of product warnings (4):

Product safety signs and labels shall be placed such that they will: (1) be readily visible to the intended viewer and (2) alert the viewer to the potential hazard in time to take appropriate action.

In their chapter on attention switch and maintenance of warnings, published in the textbook *Handbook of Warnings*, Wogalter and Vigilante note (3):

In general, a warning's attention getting power will be facilitated by placing it close (or proximate) in time and space to the hazard. Thus, in most cases warning noticeability will be benefitted by its attachment directly to the product (or its container) as opposed to a more distant placement such as in a separate instruction manual.

And

However, the warning should not be too distantly placed from a hazard as it might be forgotten in the intermediate time. For example, a verbal warning given to a farm worker who a week later starts using a hazardous pesticide is less likely to be remembered, and therefore, less effective than one given immediately prior to using the product.

With respect to design and placement of critical safety warnings, Woodson et al. note in their textbook Human Factors Design Handbook (2):

Make critical signs and signals conspicuous, legible, visible, and understandable and place them where the user is expected to be looking.

In a paper published in the journal *Occupational Health and Safety*, Peters provides the following guideline for the placement of product warnings (5):

The warning should be placed where needed and when needed. A warning buried in an operator's manual may be of little help to a typical machine operator.

The FMC Corporation is one of the world's foremost diversified chemical companies in the world and a leader in the agricultural, industrial, and consumer markets. In their 1990 edition of their *Product Safety Signs and Label System* manual, FMC notes (6)

When such safety signs and labels are placed on products in appropriate locations, they can help to reduce the occurrence of accidents through more effective communication.

Contrary to contemporary industry standards and guidelines for the design of effective warning systems, BMW NA failed to provide any warning on Yazdani's R1150 R motorcycle regarding the risk of fire if the motorcycle engine is warmed up at a standstill (MY, 157).

It was not reasonable for BMW NA to rely solely upon the use of the Rider's Manual to warn subsequent BMW R1150 R motorcycle owners and riders of the fire hazard associated with warming up the engine with the motorcycle at a standstill. BMW NA should have conspicuously and permanently placed a warning directly on the motorcycle and the motorcycle was defective and unreasonably dangerous without the warning.

BMW NA failed to provide an adequate warning system, which included a conspicuous on-product warning, which met contemporary industry standards, guidelines, and practices regarding the fire hazard associated with warming up the motorcycle engine at a standstill.

BMW NA's failure to provide an adequate warning system regarding the fire hazard associated with warming up the engine at a standstill, which included the use of a conspicuous on-product warning, was unreasonably dangerous, rendered the BMW R1150 R motorcycle defective and unreasonably dangerous, needlessly placed consumers and product users in danger, and caused the fire.

BMW NA's failure to provide an adequate warning system regarding the fire hazard associated with warming up the motorcycle engine at a standstill deprived Parvez Yazdani of critical safety information he needed to safely use the motorcycle. For example, Parvez Yazdani testified that prior to the fire:

- He did not understand the risk of overheating the engine by letting the motorcycle engine run at a standstill (PY, 20);
- He never thought that warming up a motorcycle would result in it catching fire (PY, 20).

- He was not aware that he was doing anything unsafe and he thought it was safe to let the motorcycle engine idle (PY, 27).

BMW NA's failure to comply with long known applicable guidelines, practices, and the American National Standard Z535.4 deprived Parvez Yazdani of the protection afforded to the public by those guidelines and standards.

BMW NA's failure to provide an adequate warning system is evident in Mark Yeldham's investigation of 6 to 12 motorcycle fires caused by the failure of the oil sight glass cover due to excessive engine oil temperatures (MY, 121).

E.2. BMW NA was aware of the need to provide adequate warning including an on-product warning.

BMW NA was aware of the need to provide a warning label directly on their motorcycles to alert, inform, and remind riders of the potential fire hazard associated with allowing a BMW motorcycle with an air-cooled engine to warm up at a standstill (MY, 156).

In 1997, BMW NA implemented a recall campaign related to the 1994 to 1997 model year BMW R1100RSL motorcycles. The recall involved BMW NA sending out and adding warnings labels to the steering head/upper fork bridge of R1100RSL motorcycles (MY, 170,171). The recall warning label stated:

Avoid increased idle speed
at a standstill with choke in use.
Risk of overheating and fire.

The recall campaign also included an insert that was added to the Rider's Manual for the BMW R1100RSL. The insert includes the following a warning:

Warning
Do not keep the engine running while the motorcycle is at a standstill – risk of overheating and fire.
Ride away immediately after starting the engine.

A similar warning appears in the Rider's Manual of the BMW R1150 R motorcycle as noted in the previous section of this report.

The BMW R1100RSL motorcycle possesses an air-cooled engine similar to the BMW R1150 R motorcycle. Unlike the BMW R1150 R, the BMW R1100RSL possesses a full front fairing. Both the BMW R1100RSL and the R1150 R possess manual chokes controlled by the rider. The choke increases the engine idle speed (i.e., RPM) to help the engine warm up faster (MY, 72,73,137). However, as the engine temperature increases, the engine idle speed will increase when the

choke is in the full or detent position (MY, 137,138). As the engine speed increases so does the temperature of the engine and engine oil (MY, 134-136).

Similar to the BMW R1100RSL, there is a fire hazard associated with the BMW R1150 R motorcycle if the engine is allowed to run when the bike is stationary (MY, 177). Mark Yeldham, BMW NA corporate designee, testified that BMW NA is aware of only two modes for the BMW R1150 R motorcycle to catch fire when it is left idling at a standstill: (1) the oil sight glass fails allowing extremely hot oil to escape the engine, and (2) body work (e.g., front fairing) or wiring harness near the exhaust header is heated (MY, 130). The latter is the same failure mode prompting the recall campaign that BMW NA initiated in 1997.

Although the BMW R1150 R motorcycles possess a fire hazard potential similar to the R1100RSL, BMW NA failed to provide any warning label directly on the BMW R1150R motorcycle to alert, inform, and/or remind riders of the potential fire hazard associated with warming up the engine at a standstill.

Mark Yeldham testified that they added the recall label to their BMW R1100RSL motorcycles because there was a risk of fire if the bike was left running while stationary (MY, 175-177). Mark Yeldham also testified that the label was added to make the end user aware that there was a risk of fire (MY, 175). Yeldham's testimony is consistent with BMW NA's admission that "..., because the product is too complex and the average or ordinary consumer would not be capable of forming an expectation about the product.¹"

It is the complexity of the fire hazard scenario and the improbability that the rider will expect a fire to occur by simply allowing the motorcycle to idle in a stationary position that made it critical for BMW NA to ensure that adequate warning was provided with their BMW R1150 R motorcycles. To foresee the potential fire hazard associated with warming up the engine with the motorcycle at a standstill without adequate warning, the rider would have to know that:

1. The motorcycle possesses an air-cooled engine;
2. Engine heat is dissipated by moving air across the engine's cooling fins and if the bike is not moving the air flow will not be adequate to dissipate the heat;
3. As the engine temperature rises, its speed will increase, which further increases the temperature of the engine;
4. As the engine temperature increases, the oil temperature increases as well;
5. The R1150 R engine possess an oil sight glass;
6. The oil sight glass possess a plastic cover that fails at 329°F and a seal that can also fail at elevated temperatures;
7. Engine oil can reach 329°F if the engine is allowed to warmup in a stationary position;
8. The elevated engine temperature can cause the oil sight glass to fail;
9. If the oil sight glass fails, extremely hot oil liquid and vapors will be released from the engine;

¹ BMW NA's Answer with Affirmative Defenses: Fourteenth Affirmative Defense.

10. The oil vapors can ignite upon contacting the exhaust header causing a fire.

Unfortunately, most people lack awareness of, experience with, and/or knowledge of the technology features of many products, including mechanical relationships, thermal characteristics, gaseous and combustible materials, and conditions that cause fires (2,12). Because people generally do not know what causes products to ignite or explode they are not prepared to identify or deal with the potential hazard without adequate warning (2). Most people would not be expected to appreciate or anticipate the chain events and characteristics of the BMW R1150 R motorcycle that creates the fire potential without adequate warning (2,12-14).

The prohibition against letting the motorcycle engine warmup while stationary is also inconsistent with common experience and practice. For example, it is common for people to allow motor vehicles to warm up after starting before driving away or to let a vehicle idle for an extended period of time. Consistent with these common experiences, Mark Yeldham testified that:

- He has started his car on a cold day and let the engine warm up before he got it in and drove away (MY, 81,82).
- People generally know that starting up a cold engine on a winter's day and then flying down the street at high speed is not a good idea (MY, 81).
- Everyone knows that when you start an engine on a very cold day it does not start up so readily and it is not smooth right away (MY, 80).
- When it is really cold outside, you have to hold the choke open longer until the engine warms up and smooths out and that if you close the choke too soon the engine can stall (MY, 88).
- It is foreseeable that riders will get stuck in traffic which can result in the engine running while the motorcycle is stationary for an extended period of time (MY, 146,147).

Other motorcycle manufacturers do not prohibit riders from warming up their engine while the motorcycle is at a standstill. On the contrary, competitor motorcycle manuals explicitly state that the engine should be warmed up before riding off. For example, 2002 Yamaha motorcycle manuals state:

CAUTION: For maximum engine lift, always warm the engine up before starting off.²

Harley Davidson also notes under the "Starting the Engine" section of their 2007 Softail motorcycle manual:

² Owner's Manuals for 2002 models XVS1100AWR and XVS1100ATR (LIT-11626-16-46. Pg. 5-3) and RoadStar XV16A/AT (Pg. 5-2).

CAUTION:

The engine should be allowed to run slowly for 15-30 seconds. This will allow the engine to warm up and let oil reach all surfaces needing lubrication. Failure to comply can result in engine damage.

The 2002 Yamaha motorcycles cited have a manual choke. The 2007 Softtails are fuel injected without a manual choke. Both the Yamaha and Harley Davidson motorcycles cited feature air-cooled engines.

BMW NA implemented the recall campaign after receiving notice of eleven incidents related to the fire hazard associated with the design and operation of the R1100RSL motorcycle.

Predictably BMW NA learned during their investigation of the incidents that many owners reported that the motorcycle had been left unattended at engine speeds above idle causing the engine to overheat. Similar to the scenario that BMW NA's recall campaign was intended to address, the current fire occurred when Yazdani left the motorcycle unattended while warming up the engine to keep everything running during the colder months (PY, 14-16,64).

BMW NA knew or should have known that a warning label was needed on the BMW R1150 R motorcycle to alert, inform, and/or remind riders of the potential fire hazard associated with letting the engine warm up at a standstill.

E.3. BMW NA should have provided an adequate warning system.

If they chose not to eliminate or guard against the fire hazard associated with warming up the engine at a standstill, BMW NA should have ensured that a conspicuous on-product warning was provided on the BMW R1150 R motorcycles. The warning should have been placed on cockpit (e.g., above the ignition switch and below the ABS warning light) or the upper fork bridge/steering head of the BMW R1150 R motorcycle (MY, 170). The warning should have alerted riders to the fire hazard associated with allowing the motorcycle engine to warm up at a standstill.

Illustration 1 presents an example of an on-product warning meeting the ANSI Z535.4-2002 criteria for on-product safety warnings that BMW NA should have permanently presented on the BMW R1150 R motorcycle (4).

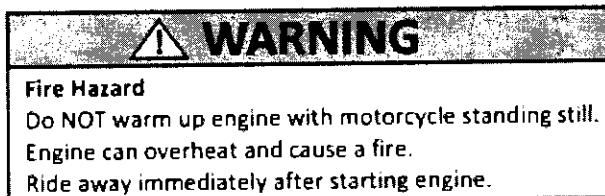


Illustration 1. Fire hazard warning.

The warning depicted in Illustration 1 should have been repeated in the motorcycle's Rider's Manuals with an explanation of how the fire occurs (e.g., oil temperature increases to an elevated level causing the oil sight glass to fail and allow hot oil to escape the engine or heat from the exhaust headers can ignite the body work or wiring harness).

It would have been reasonable for BMW NA to provide an adequate warning system, including a conspicuous on-product warning, with the BMW R1150 R motorcycle. The cost in terms of money, effort, and time to do so would have been minimal and insignificant. For example, BMW NA added a warning label to the upper fork bridge/steering head of the BMW R1100RSL motorcycles they recalled to make riders aware of the potential fire hazard associated with letting the engine warm up at a standstill (MY, 170,175).

Had an adequate warning system, including a conspicuous on-product warning, been provided, BMW NA would have ensured that the Parvez Yazdani was provided with the information he needed to make an informed decision as to his operation of the incident BMW R1150 R motorcycle and avoided the fire.

F. FINDINGS

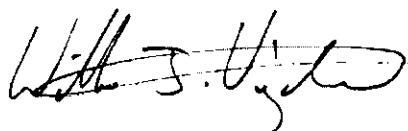
Within the bounds of reasonable scientific certainty, and subject to change if additional information becomes available, it is my professional opinion that:

1. BMW could not reasonably rely on dealer provided training to alert, inform, and remind all potential users of the motorcycle of the fire hazard created by attempting to warm up the engine with the motorcycle at a standstill.
2. It was not reasonable for BMW NA to rely solely upon the use of the Rider's Manual to warn subsequent BMW R1150 R motorcycle owners and riders of the fire hazard associated with warming up the engine with the motorcycle at a standstill.
3. BMW NA should have conspicuously and permanently placed a warning directly on the motorcycle and the motorcycle was defective and unreasonably dangerous without the warning.
4. BMW NA failed to provide an adequate warning system, which included a conspicuous on-product warning, which met contemporary industry standards, guidelines, and practices regarding the fire hazard associated with warming up the motorcycle engine at a standstill.
5. BMW NA's failure to provide an adequate warning system regarding the fire hazard associated with warming up the engine at a standstill, which included the use of a conspicuous on-product warning, was unreasonably dangerous, rendered the BMW R1150 R motorcycle defective and unreasonably dangerous, needlessly placed consumers and product users in danger, and caused the fire.
6. BMW NA's failure to provide an adequate warning system regarding the fire hazard associated with warming up the motorcycle engine at a standstill deprived Parvez Yazdani of critical safety information he needed to safely use the motorcycle.

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7. BMW NA's failure to comply with long known applicable guidelines, practices, and the American National Standard Z535.4 deprived Parvez Yazdani of the protection afforded to the public by those guidelines and standards.
8. BMW NA's failure to provide an adequate warning system is evident in Mark Yeldham's investigation of six to 12 motorcycle fires caused by the failure of the oil sight glass cover due to excessive engine oil temperatures (MY, 121).
9. It is the complexity of the fire hazard scenario and the improbable that the rider will expect a fire to occur by simply allowing the motorcycle to idle in a stationary position that made it critical for BMW NA to ensure that adequate warning was provided with the BMW R1150 R motorcycles.
10. BMW NA knew or should have known that a warning label was needed on the BMW R1150 R motorcycle to alert, inform, and/or remind riders of the potential fire hazard associated with letting the engine warm up at a standstill.
11. BMW NA should have ensured that a conspicuous on-product warning was provided on the BMW R1150 R motorcycles they distributed in the United States.
12. It would have been reasonable for BMW NA to provide an adequate warning system, including a conspicuous on-product warning, with the BMW R1150 R motorcycle. The cost in terms of money, effort, and time to do so would have been minimal and insignificant.
13. Had an adequate warning system, including a conspicuous on-product warning, been provided, BMW NA would have ensured that the Parvez Yazdani was provided with the information he needed to make an informed decision as to his operation of the incident BMW R1150 R motorcycle and avoided the fire.



William J. Vigilante Jr., Ph.D.

G. REFERENCES

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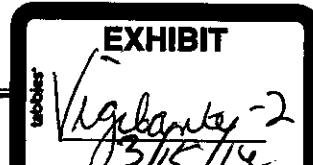
H. APPENDIX

William J. Vigilante Jr., PhD, CPE
History of Expert Testimony by Deposition or Trial

1/1/2016
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Date	Case Name and Description
3/2012	Ryan Duff v. The Key West Reach Limited Partnership, et al. Circuit Court 16 th Judicial District Case No. 2011-CA-79-K Monroe County, FL; Deposition
3/2012	Community Association Underwriters of America, Inc et al. v. Widmer's, et al. Circuit Court Division I No. 09-CI-2752 Kenton, KY; Deposition
4/2012	American Family Mutual Insurance Company, a/s/o John Power and Debra Doll-Power v. Electrolux North America, Inc. et al United States District Court 1:10-CV-07864 Northern District of Illinois; Deposition
5/2012	Royal Indemnity Company, et al. v. Crane Company, et al. Civil Action File #: CV 114-405 Superior Court of Fulton County, GA; Trial
5/2012	Jessica Durkin v. Paccar, Inc. et al United States District Court Civil Action No.: 1:10-cv-02013-JHR-AMD District of New Jersey; Deposition
5/2012	Doniel Kleiman, Steve Kleiman v. Jay Peak Inc. et al United States District Court Civil Action No.: 1:10-cv-83 District of Vermont; Deposition
6/2012	Commonwealth of PA vs. John Epps, Jr. Criminal Action No. CP-67-CR-0001332-2011 Court of Common Pleas, York County, PA; Trial
7/2012	Linas Brock et al. vs Sewerage & Water Board of New Orleans et al. Case No. 2008-02861 Civil District Court for the Parish of Orleans, LA; Deposition

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Exhibit B



William J. Vigilante Jr., PhD, CPE
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<u>Date</u>	<u>Case Name and Description</u>
8/2012	James Markham v. Hall Worldwide Transportation, LLC et al. United States District Court Civil Action No: 5:11-CV-95; Southern District of GA, Waycross Division; Deposition
10/2012	Mitchell Robinson et al v. YJ USA Corp. d/b/a JumpKing, et al Cause No. 45D11-0809-CT-00118 Superior Court, Crown Point, IN; Deposition
11/2012	Shirley and Ronald Pittman v. Joshua E. Hess, MAJA, Inc., Fedex Ground Package System, et al Cause No. 79D01-1106-CT-00048 Tippecanoe Superior Court, IN; Deposition
12/2012	Faith and Alex Hobbs v. Burger King Corp. United States District Court Case No. 2:11-cv-01469-DCN District of South Carolina, Charleston Division; Deposition
12/2012	John McCray v. Washington Nationals Baseball Club, LLC et al. No. 2011CA000101B Superior Court – Civil Division District of Columbia; Trial
1/2013	John and Emily McGrath v. Rust-Oleum Corp, et al. United States District Court Case No. 2:12-cv-01719-JP Eastern District of Pennsylvania; Deposition
4/2013	Jacqueline Downing and IDA Wescott v. UCS, Inc. United States District Court Civil Action No.: 2:12-CV-638/9 Eastern District of Virginia; Deposition
5/2013	Mike Allen and Leah Allen, et al. v. Christopher Aaron Poskey, et al. Cause No. 2012-212 County Court Panola County, TX; Deposition
7/2013	Megan Smith vs. In Gear Fashions, Inc., et al.

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History of Expert Testimony by Deposition or Trial

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<u>Date</u>	<u>Case Name and Description</u>
	Civil Action No. 07-C-806-DS Circuit Court Mercer County, WV; Deposition
8/2013	David Vititoe v. Rocky Mountain Pavement Maintenance, Inc. et al. Civil Action No. 2010-CV-8156 District Court Denver County, CO; Trial
10/2013	Peter Hetzler v. Sunday River Skiway Corporation Docket No. CV-2012-6 Superior Court Oxford County, ME: Deposition
11/2013	Kimberly Greenberg v. Larox, Inc Civil Action No. 6:2011-cv-06524 United States District Court Western District of New York: Deposition
12/2013	Akira Nakasato v. 331 W. 51 st Corp and Eleben Yau-Mei Wong Index No. 103045/09 Supreme Court New York County, NY: Trial
12/2013	Daniel Webb and Margaret Webb v. Oak Leaf Outdoors, et al. 11-CV-02456 United States District Court Eastern District of Pennsylvania: Deposition
1/2014	Chalrie Mae Wade, as Administratrix Ad Litem of the Estate of Johny Lewis Williams, deceased v. James C. Townley Jr, et al CV-2011-900606 Circuit Court Jefferson County, AL: Deposition
2/2014	Jesus Flores v. Alexander Andrew, Inc. d/b/a Fall Tech Cause No.: 29D01-0809-CT-01133 Superior Court Hamilton County, IN; Deposition

William J. Vigilante Jr., PhD, CPE
 History of Expert Testimony by Deposition or Trial

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Date	Case Name and Description
7/2014	Scot and Patricia Vandenberg vs. Brunswick Corporation, et al. No. 2010 L 003188 Circuit Court Cook County, IL; Deposition
8/2014	Eric Carter et al, vs. US of America Civil Action No. 4:13-cv-112 United States District Court Eastern District of VA; Trial
9/2014	Ruth Vincent vs. Benjamin J. Solomon, III, et al. Docket No. UNN-L-318-09 Superior Court Union County, NJ; Deposition
10/2014	Keisha Hudson vs. DC Water and Sewer Authority Case No. 2013 CA 003721B Superior Court Washington, DC; Deposition
10/2014	Raul Nunez vs. Martin Leasing, et al. Case No. 11 L 7937 Circuit Court Cook County, IL; Deposition
12/2014	James C. Fuda, et al. vs. King County, et al. Consolidated Cause No. 11-2-19682-8 Superior Court King County, WA; Deposition
2/2015	Jordan Lumber & Supply, Inc., et al. vs. Quality Sprinkler Co., Inc. Case No. 13-CVS-61 NC Superior Court Montgomery County, NC; Deposition
3/2015	John Parkhurst / Karen Thiesfeld / Sandra Barkley / John and Jane Doe, as parent and next of friend of A.S., a minor vs. DC WASA Case No. 2013 CA 003811/13/14/55 B Superior Court District of Columbia; Deposition

William J. Vigilante Jr., PhD, CPE
History of Expert Testimony by Deposition or Trial

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Date	Case Name and Description
3/2015	Member select Insurance Company, a/s/o Chris and Renata Loiotile v. Electrolux Home Products, Inc. and Sears Holding Corporation Case No. 1:13-cv-4097 United States District Court Northern District of Illinois, Eastern Division; Deposition
4/2015	Virginia and Robert Nester v. Textron, Inc. et al. Case No. 1:13-CV-00920-LY United States District Court Western District of Texas; Deposition
5/2015	Anthony DiBiaso v. Peter Dremonas, Koubaro, Inc. d/b/a Pete's Produce et al. Case No. 13 L 009445 Circuit Court Cook County, IL; Deposition
6/2015	Scot and Patricia Vandenberg vs. Brunswick, Corporation, et al. No. 2010 L 003188 Circuit Court Cook County, IL; Trial
6/2015	Debra Jane Phipps, Guardian of Wesley Baker v. PBV Conway-Myrtle Beach, LLC and Robert O'Neal McCants No 2014-CP-26-654 Court of Common Pleas 15 th Judicial Circuit Horry Counter, SC; Deposition
6/2016	Westfield Insurance A/S/O Michael Flynn v. Modern Glass, Paint and Tile Company Civil Action No: 12-CV-288 Court of Common Pleas Guernsey County, OH; Deposition
7/2014	Ramon Ernesto Ortega v. Hector Enrique Lopez, Osceola Farms Co. Case No: 502013CA012062XXXMB-AO Circuit Court of the 15 th Judicial Circuit Palm Beach County, FL; Deposition

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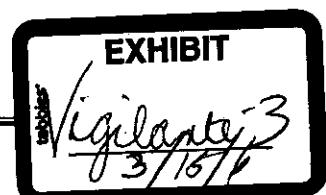
Date	Case Name and Description
7/2015	Walter and Theresa Mazur vs. City of Philadelphia, et al. No. 130900815 Court of Common Pleas Philadelphia County, PA; Trial
7/2015	Robert and Catherine Connelly vs. Rhino Quatermasters, Inc. d/b/a Planet Fitness No. 140301681 Court of Common Pleas Philadelphia County, PA; Trial
8/2015	United Preferred Insurance Company a/s/o Jason and Melinda Swanson v. Electrolux North America, Inc., et al. Case No. 14-cv-50169 United States District Court Northern District of Illinois, Western Division; Deposition
10/2015	Kelvin & Krystle Carr v. Taylor Industries, LLC Case No. 369-14-5162 District Court 369 th Judicial District Anderson County, TX; Deposition
10/2015	Sarah and Barry Hantman vs. James Boozan Docket No.: MER-L-2158-13 Superior Court of New Jersey Mercer County, NJ; Deposition

WILLIAM J. VIGILANTE JR., PhD, CPE
Human Factors / Ergonomics Expert

HUMAN FACTORS and ERGONOMICS EXPERIENCE

Over 22 years of experience in the researching, designing, and evaluating driver performance, roadway safety, pedestrian safety, control-display design, consumer and commercial products and equipment, safety and hazard analyses, risk perception, and design of warnings and instructional materials.

- **Warnings:** Assess the adequacy of warning labels, signs, and user manuals to communicate hazards, motivate compliance, and improve safety. Assess the effect of the warning design and presentation as well as situational and inter/intra personal factors on compliance and risk taking behavior.
- **Vision and Driving:** Assess issues related to visual perception, reaction time, and expectancies along with lighting and roadway conditions related to vehicle collisions. Investigation of pedestrian knockdown collisions, collisions involving stop or slow-moving vehicles, and collisions related to lack of positive guidance and adequate roadway signage.
- **Motorcycle:** Assess rider actions and visibility.
- **Slips, Trips, and Falls:** Determine how attention and perceptual issues affect a person's ability to detect and avoid slip, trip, and fall hazards. Standard of care for building owners/operators and retailers to ensure safe walking surfaces in public spaces.
- **Work Place Safety:** Assess work place and equipment design and safety procedures on incident occurrence and prevention.
- **Recreational and Sporting Activities:** Perceptual abilities and reaction times and how these human factors affect people's ability to safely interact with recreational vehicles, sporting equipment, firearms, and swimming pools.
- **Lighting:** Environmental lighting analysis and its effect on people's ability to notice and recognize walkway and roadway hazards.
- **Accessibility:** Evaluating consumer and commercial products to meet Section 508 of the Americans with Disabilities Act.
- **Aging:** Assess the effects of aging on older adult's ability to read product labels and warnings; operate motor vehicles including night driving and vision, perception/reaction time and roadway navigation; and wayfind in the built environment including the effects of changes in gait, walking ability, and detecting and avoiding walkway hazards.
- **Medication Labeling:** Assess people's ability to notice, read, and understand medication labeling and advertising.
- **Product Design and Development:** Developed a variety of hardware and software interfaces and support materials for a wide range of consumer and commercial products, including: graphical user interface designs, laptop and desktop computer systems, wireless systems, input devices, storage devices, visual displays, user guides, installation wizards, safety manuals, web sites, and an eXtensible markup language (XML).
- **User Centered Design:** Carried out User Centered Design processes and activities within all phases of the product design and development cycle, including: task analyses, competitive evaluation, focus groups, iterative usability testing, and design validation.



WILLIAM J. VIGILANTE JR., PhD, CPE
Human Factors / Ergonomics Expert

PROFESSIONAL EXPERIENCE

- 2015 to **Vigilante Forensic Principle**
 Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving human factors/ergonomics, safety and risk perception, warning design, product design and development, industrial/workplace safety, roadway safety, driver performance and night vision, and premises safety.
- 2003 to **Robson Forensic, Inc. Associate**
 Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving human factors/ergonomics, safety and risk perception, warning design, product design and development, industrial/workplace safety, roadway safety, driver performance and night vision, and premises safety.
- Fournier Robson, Inc.**
 Consulted with manufacturers in the design, development, and/or assessment of product warnings and accompanied literature for consumer and commercial products.
- 2001 to **ARCCA, Inc. Forensic Scientist**
 Consultant for consumer product and safety hazard litigation. Provided background research, written reports, and testimony.
- 1998 to **International Business Machine Corporation Human Factors/Usability Engineer Consultant** 1998 - 2002
 - Worked with internal IBM clients to conduct usability studies; report user feedback data and recommendations; and transform results and recommendations into product design decisions.
 - Provided human factors support in the design and development of a data mining program used to research and create action plans for failures reported from in-the-field storage servers.
 - Provided human factors support in the design and development of storage servers and tape library systems.
 - Provided usability support and evaluation in the design and development of IBM's eXtensible Markup Language (XML) and software interface updates to the IBM information development editors that support the new XML.
- Human Factors Engineer** 1998-2002
 - User Centered Design (UCD) team lead for the IBM Personal Computing Division's T and S series ThinkPad laptop computers and wireless development.
 - Initiated and implemented software and hardware product design changes resulting from focus groups, iterative usability testing, and heuristic reviews during the product development cycle.
 - Conducted competitive assessments to evaluate products ease-of-use against major market competitors.

WILLIAM J. VIGILANTE JR., PhD, CPE
Human Factors / Ergonomics Expert

- Inputted into the functional specifications and designed the user interface for the IBM Access Connections™ network connection wizard.
- Section 508 Accessibility assessment of products developed within the ThinkPad and Options development teams.
- Worked within a cross-industry team to define user interface specifications and guidelines for the development of SIG qualified Bluetooth products.

1997 to 1998	International Business Machine Corporation <i>Human Factors Engineer Co-op</i> Developed and conducted focus groups and usability test sessions for the assessment of various Internet and Intranet web sites. Developed and implemented web based surveys to obtain user data. Recommended and implemented design changes based on usability results.
1995	Pennsylvania State University, Center for Cumulative Trauma Disorders <i>Ergonomics Researcher</i> Performed on-site video recording, data collection, and data analysis for biomechanical task analysis. Collaborated with other team members to identify injury risk factors and develop solutions to reduce or eliminate worker exposure.
1994 to 1997	North Carolina State University, Department of Psychology <i>Academic Advisor</i> Implemented and maintained an academic advising program for the psychology department. Responsible for advising undergraduate psychology students in scheduling their course work and progression towards a B.S. degree.

RESEARCH EXPERIENCE

1994 to 2001	North Carolina State University, Department of Psychology <i>Research Assistant</i> Conducted research examining the factors that affect the adequacy of warnings and product user risk perception. Specialized in the format and layout designs of operator manuals, on-product warnings and instructions, and Direct-to-Consumer web site advertisements for prescription medications. Supervised undergraduate students in a grant project focusing on the readability of over-the-counter medication labels. Worked with students from the NCSU Cognitive Ergonomics lab in developing original research projects related to visual and auditory warnings and risk perception.
1992 to 1993	University of Scranton, Department of Psychology <i>Research Assistant</i> Conducted literature reviews, designed a computer program for a reaction time experiment, collected and analyzed data. Instructed and proficiency tested students in word processing programs and statistical applications. Worked with students developing original research projects. Conducted literature reviews, collected data, analyzed results, and performed other research duties for a research study examining the prediction of relapse rates for dually diagnosed psychiatric in-patients.

WILLIAM J. VIGILANTE JR., PhD, CPE
Human Factors / Ergonomics Expert

EDUCATION

Ph.D., Psychology/Ergonomics, North Carolina State University, Raleigh, NC, 2001

M.S., Psychology/Ergonomics, North Carolina State University, Raleigh, NC, 1997

B.S., Psychology/Cognitive Track, University of Scranton, Scranton, PA, 1993

PROFESSIONAL CERTIFICATION

Board of Certification in Professional Ergonomics, CPE #2019

WORKSHOPS and CONTINUING EDUCATION

- Ensuring Pedestrian Safety in Work Zones:
 - Webinar 28961: The American Traffic Safety Services Association. September 2012
- Safety and Emergency Response Training, Confined Space Safety, FIRECON, 2009
- Stairway Usability and Safety, Part 1: Uses and Falls by Individuals:
 - Workshop 1: Human Factors and Ergonomics Society S1st Annual Meeting. October, 2007 Instructor: Jake Pauls
- There Goes the Sun: Driver Vision and Behavior during Dusk and Darkness Workshop 14S:
 - 86th TRB Annual Meeting January 2007. Instructors: John D. Bullough, Rensselaer Polytechnic Institute; James R. Sayer, University of Michigan Transportation Research Institute; David M. Burns, 3M Company
- Human Factors Principles in Auditory Displays and Warning Signal Design
 - Workshop 8: Human Factors and Ergonomics Society 49th Annual Meeting. September, 2005. Instructors: John G. Casali & Jeff A. Lancaster, Virginia Tech
- Sound/Noise Measurement Basics with Specific Application to Human Factors Research and Practice
 - Workshop 12: Human Factors and Ergonomics Society 48th Annual Meeting. September, 2004. Instructors: John G. Casali & Gary S. Robinson, Virginia Tech
- Risk Assessment and Human Reliability: Some Practical Tools for Improving Safety
 - Workshop 125: 83rd TRB Annual Meeting. January 2004. Instructors: Dennis C. Bley & John Wreathall, The WreathWood Group; Joseph Myers, US Coast Guard; Emile Roth, Roth Cognitive Engineering
- Human Factors Approach to Accident Analysis and Prevention
 - Workshop 2: Human Factors and Ergonomics Society 47th Annual Meeting. October 2003. Instructors: Scott A. Shappell, Federal Aviation Admin.; Douglas A. Wiegmann, University of Illinois
- Motorcycle Safety Foundation:
 - Basic Rider Course (certificate)
 - Off-Highway Motorcycle Course (certificate)
- Raymond "Safety on the Move" Forklift Certification Program (Stand-up/Sit-down Reach/Counterbalanced trucks), Jan 2014

**WILLIAM J. VIGILANTE JR., PhD, CPE
Human Factors / Ergonomics Expert**

PROFESSIONAL MEMBERSHIPS and AFFILIATIONS

Member:

- American Society of Safety Engineers
- Human Factors and Ergonomics Society
 - Safety Technical Group (past and present) Program Chair
- Illuminating Engineering Society
- Transportation Research Board

Reviewer:

- Applied Ergonomics
- Ergonomics
- Human Factors and Ergonomics in Manufacturing
- International Journal of Human Factors and Ergonomics
- Proceedings of the Annual Human Factors and Ergonomics Society Meeting
- User-Centered Consumer Product Design Award: HFES Product Design Technical Group

PUBLICATIONS and PRESENTATIONS

Eckhardt, B. J., Vigilante, W. J., Jr., & Coste, P. F. (2012) Visibility Factors in Small Boat Collisions. Presented at the 2012 International Marine Forensics Symposium. National Harbor, MD: The Society of Naval Architects and Marine Engineers & American Society of Naval Engineers.

Hicks, K. E., Vigilante, W. J., Jr. & Wogalter, M. S. (2001). Relative placement of benefit and risk information in direct-to-consumer advertisements of prescription drugs on the World Wide Web. In Proceedings from the Human Factors and Ergonomics Society 45th Annual Meeting (pp. 1196-1200). Santa Monica, CA: The Human Factors and Ergonomics Society.

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Joyce, K. M., Byrd, T. G., Vigilante, W. J., Jr., & Wogalter, M.S. (1999). Over-the-counter (OTC) drug labeling: format preferences. Presented at the 107th Annual Convention of the American Psychological Association. Boston, MA: American Psychological Association.

Lim, R. W. & Vigilante, W. J., Jr. (2010). Consumers' interpretation of the statement: "Do not leave [insert product here] unattended." In Proceedings of the Human Factors and Ergonomics Society 54th Annual Meeting (1841 – 1845). Santa Monica, CA: The Human Factors and Ergonomics Society.

Lim, R. W., Keshishian, P., Hernandez, J., and Vigilante, W. J., Jr. (2008). Parent's expectations and beliefs toward the relative safety of their children riding bicycles at night. In Proceedings of the Human Factors and Ergonomics Society 52st Annual Meeting (1703-1707). Santa Monica, CA: The Human Factors and Ergonomics Society.

Lim, R. W. & Vigilante, W. J., Jr. (2007). Middle-school-aged children's expectations and beliefs toward the relative safety of riding bicycles at night. In Proceedings of the Human Factors and Ergonomics Society 51st Annual Meeting (1383-1387). Santa Monica, CA: The Human Factors and Ergonomics Society.

**WILLIAM J. VIGILANTE JR., PhD, CPE
Human Factors / Ergonomics Expert**

Nemire, K. & Vigilante, W.J., Jr. (2015). A call for updating the FHSA regulations with warnings research and to match ANSI ZS35.4. In Proceedings from the Human Factors and Ergonomics Society International 59th Annual Meeting (pp. 1471-1475). Santa Monica, CA: The Human Factors and Ergonomics Society.

Turina, M., Schaible, R., Vigilante, W. J., Jr. (2009). Forensic ergonomics: theory and practice. Paper presented and abstract published at the 41st Annual Conference of the Nordic Ergonomics Society. LO-Skolen, Helsingør, Denmark: Nordic Ergonomics Society.

Tomcho, T. J., Vigilante, W. J., Jr., Church, M. A., Truscott, J. W., & Alford, B. A. (1993). Self-concept as a predictor of therapeutic response in dual-diagnosed psychiatric inpatients. Paper presented at the 64th meeting of the Eastern Psychological Association. Arlington, VA: Eastern Psychological Society.

Vigilante, W. J., Jr. (2005). Consumer beliefs toward the protection offered by motorcycle helmets: the effects of certification, price, and crash speed. In Proceedings from the Human Factors and Ergonomics Society 49th Annual Meeting (pp. 862-866). Santa Monica, CA: The Human Factors and Ergonomics Society.

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Human Factors / Ergonomics Expert**

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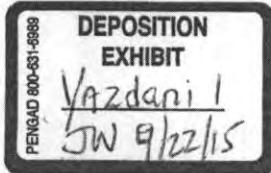
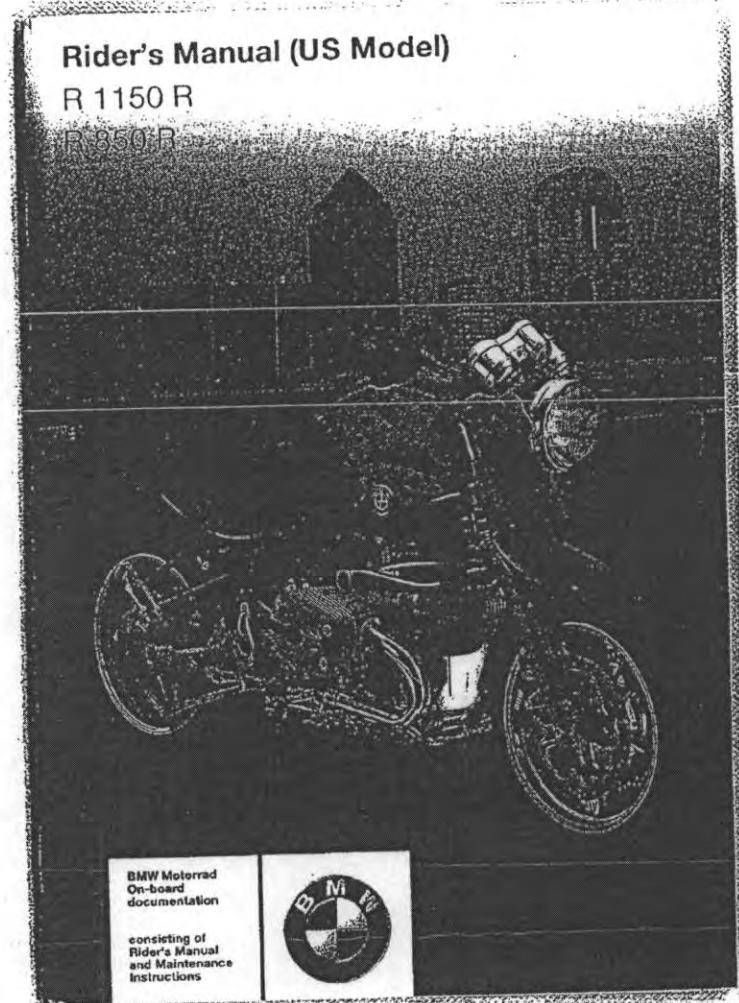
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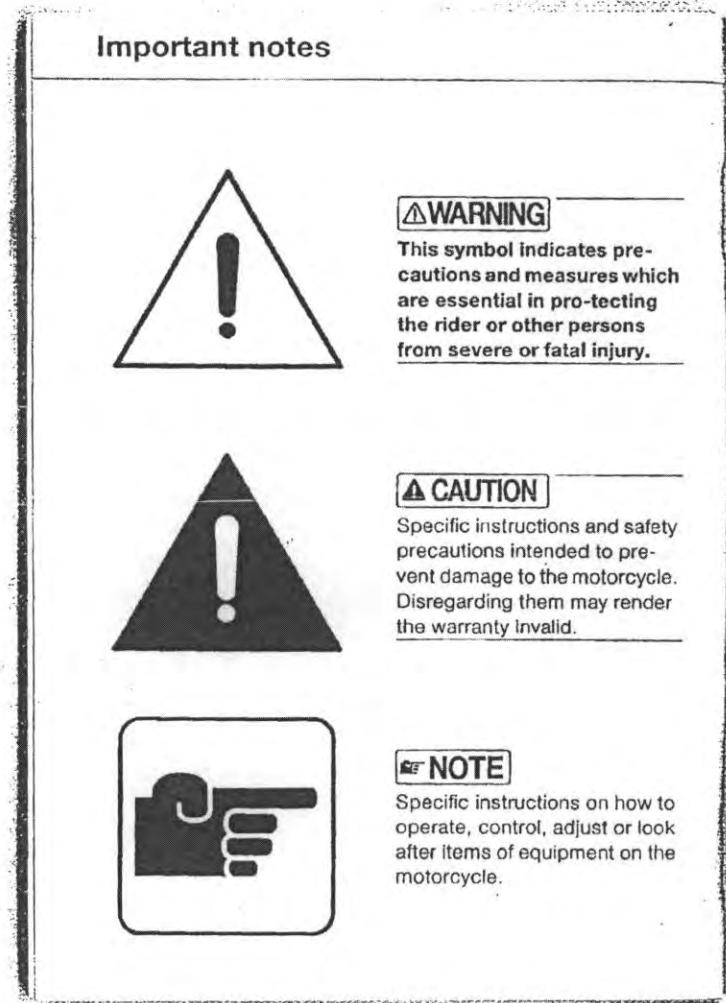
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BMWNA000001



Important notes

3

Catalytic converter

CAUTION

To avoid damage to the catalytic converter:

- Do not run the fuel tank dry
- Push-start only when the engine is cold
- Do not run the engine with a spark plug lead detached
- Do not exceed the engine-speed limits marked on the tachometer
- Comply with all specified maintenance intervals
- Stop the engine at once if it is misfiring
- In the event of misfiring or a severe drop in engine power, consult a BMW-certified shop, preferably an authorized BMW Motorrad retailer. If misfiring or malfunction of the fuel-air mixture preparation system cause unburned fuel to reach the catalytic converter, there is a risk of it overheating and being damaged.

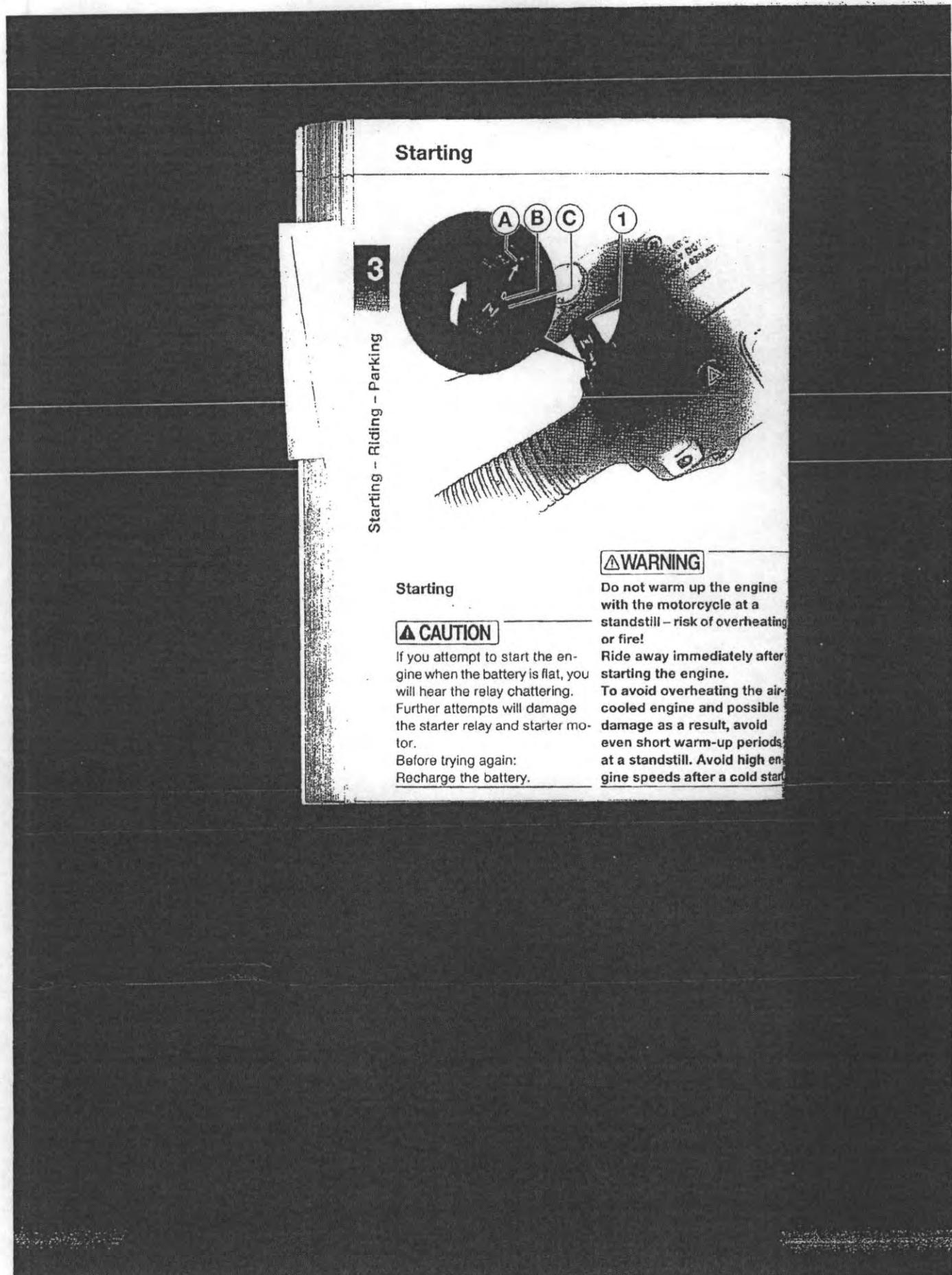
Risk of fire

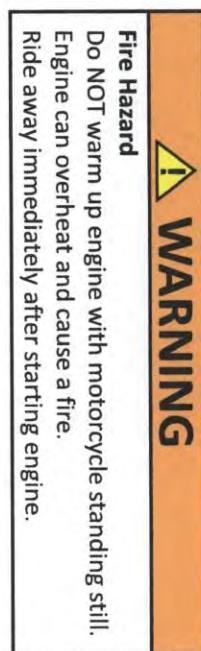
High temperatures occur at the exhaust system, particularly if a catalytic converter is installed.

WARNING

Make sure that whether riding or standing still or when the motorcycle is parked, no easily flammable material (for example hay, grass, leaves, clothing or luggage etc.) can come into contact with the hot exhaust system. Do not allow the engine to idle unnecessarily or for prolonged periods
—Risk of overheating or fire. Ride away immediately after starting the engine.

Starting – Riding – Parking





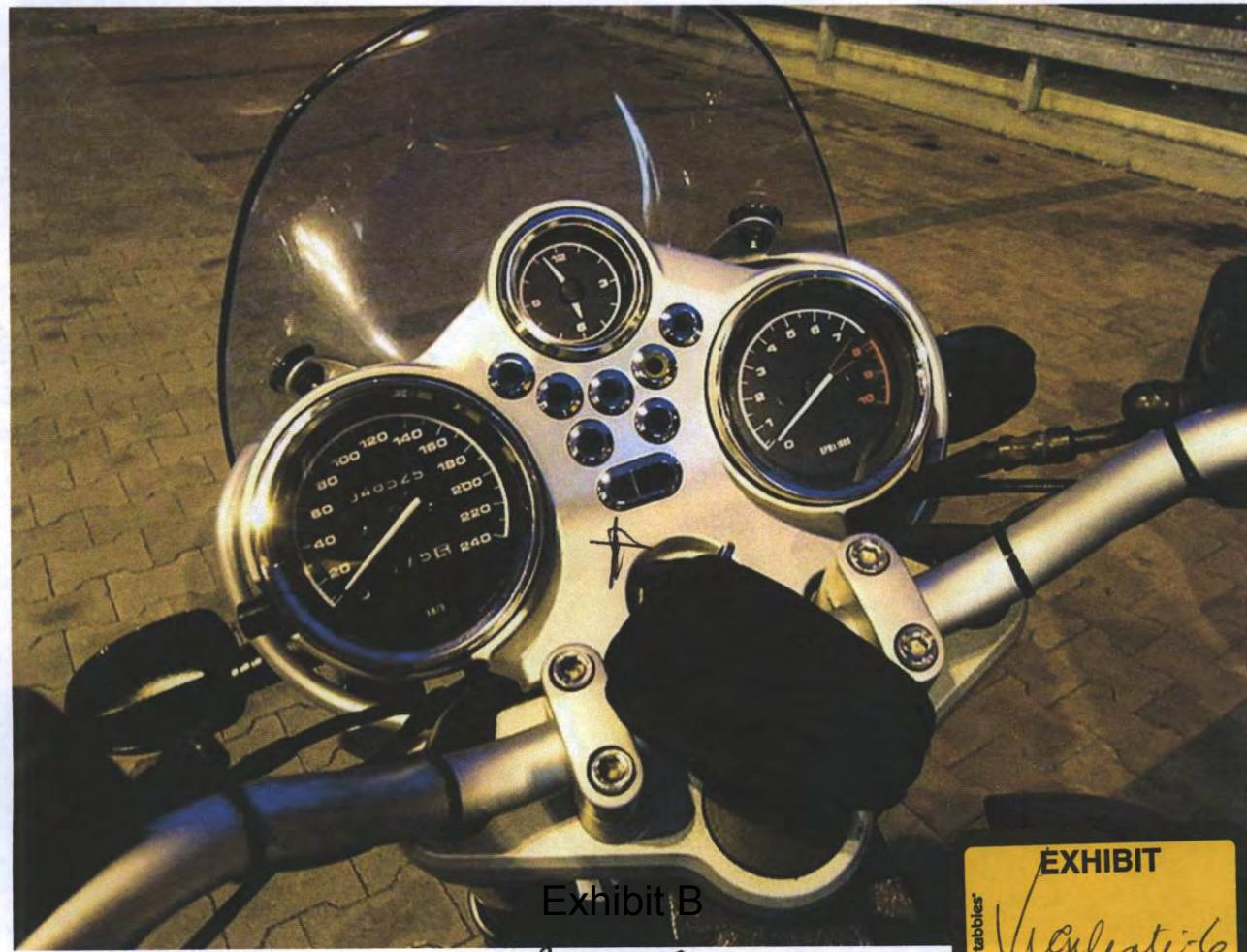


Exhibit B

b4 eop

EXHIBIT
Vigilante-6



Exhibit B

1/14/2015

draining the float bowls.

Fuel stabilizer is good magic. Why? Gas gets old. It gets funky. And it turns into sticky, ooey, gooey varnish. Untreated fuel left sitting in your gas tank and carburetor will semi-solidify and clog the itty-bitty sized openings and channels here and there.

Come springtime, your bike will die suddenly, have difficulty idling, or possibly fart in your general direction and refuse to start at all. And if this happens, plan to fork out a few hundred to a local shop to tear down your carburetor, soak the parts in cleaner, and reassemble. Or, you can do it yourself, enjoying 8 hours of adventure and mystery, wondering if that little spring was really necessary, right up until you thumb the starter. I have personal experience here. I'm cheap and mechanically inclined.

Trust me on this: there is nothing worse than being Charles-Manson-crazy-excited for your first ride of the year, dying to get out there and raise some hell on two wheels, rolling on the throttle, and getting a "ka-PUT-PUT-THUP-[silence]" while you madly stomp a foot down to keep from dumping it at 5 miles an hour at a stop sign and looking like a true squid. Not that I have personal experience here.

Fuel stabilizer can protect you from this embarrassment. Sta-bil is a brand that has a good reputation. It works by protecting the happy little gasoline molecules from the mean nasty oxygen molecules that break them down and change them into ooey-gooey's. A little bottle of this stuff is well worth the equivalent cost of two or three lattes. It's cheap, easy-to-use insurance.

The other part of fuel system winterizing that warrants our attention is keeping your gas tank full. There is a scientific reason behind this. And if I were so inclined, I could go into detail to explain the molecular-level interactions between reactive ions in metal materials and their romantic pursuit of the oxygen component of moisture that, over time, causes corrosion and broken homes.

But it would take way too long and nobody really cares about chemistry anyway. Besides, I've seen you guys try to calculate fuel efficiency. The details don't really matter. What matters is this: moisture is bad for metals. If left sitting, the interior walls of your tank will collect moisture. Your tank is metal. You do the math. Or chemistry. Whatever.

The Half-A\$\$ technique: every time you find the huevos to ride a few winter miles, stop at the gas station on your way home, and top it off. Pay attention to how much fuel you add. And when you get home, dribble some Sta-bil in there, based on the ratios they give you on the container. Or get a friend to read the directions for you.

EXTREMIST TIP: Change Your oil and filter at winter's start and end. Pull the spark plugs and squirt 25cc of oil into the cylinders to coat the walls, piston rings, and valve seats. Rotate the crank by hand to coat the liners and cover the engine parts with oil.

REALITY: Run the engine every now and then, and change the oil based on actual calendar age.

Why? If your engine is left to sit for a long time, our old friend (read, "eternal nemesis") moisture sneaks in and attacks the internal metal thingies. Like your mother-in-law who just shows up uninvited, and announces that she's "just visiting for a few days", and then proceeds to raise your children, re-program your wife's brain, and generally nose her way into your routine for two months, destroying any semblance of a normal, private life, until finally you have had it up to HERE and... huh? Oh. Right. Moisture.

Motorcycle Winterization

1/14/2015

NORTHWEST MOTORCYCLING
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Half A\$\$ Winterization

Let's all face it. We live in the meteorological dead zone of the Pacific Northwest, where overcast days outnumber sun-dress sightings by about 300 to 1. All too often, when the clocks roll back, I tool along behind other cars in heavy traffic under a light drizzle. And I watch with envy as that same Beemer-guy rides past me in the HOV; all toasty and dry in full rain gear and heated vest and gloves, I feel like a wimp.

So, I'm not the ultimate hardcore rider. I'm not a 'fair weather rider' either. I'm just an enthusiast who prefers his nipples to be non-frosty. I ride three or four times a week for 6 or 8 months out of the year. And when the temperatures drop below 55, the bike only comes out when there's some sunshin

How do I deal with the cold weather, a semi-idle motorcycle, and the continual desire to be on the wheels, you ask? I do something I call "Half-A\$\$ Winterization".

You guys have heard about "winterization" before. Every fall, I see at least two or three different articles on "winterizing tips". I scan, laugh, and move on to the article about the new Aprilia, or the latest barrage of insults back and forth between the helmets-r-good and the helmets-r-unconstitutional groups.

One man's opinion: these winterization lists all suck. They are ridiculously long and involved, and they don't apply to me or to this area. If you live in So Cal, there's no reason to winterize. If you live in Wisconsin, buy the video, take the class and get your certification. Me, I live just outside of Seattle. Even if I only ride ten times between late October and late March, there's no way I'm going to put the bike into full blown hibernation... because if that unseasonably warm, sunny day pops up on January 6th, I want to get out and ride and my bike has to be ready to go.

So here is the Real World Guide to Winterizing Your Motorcycle in the good old PNW.

EXTREMIST TIP: Fill the fuel tank, add fuel stabilizers, turn off the gas, run the engine dry, and empty the float bowls.

REALITY: If you can remember to keep beer stocked in the fridge, you can remember to start your bike once a week, and ride it around the block once or twice a month. Buy some Sta-bil. Don't bother



11/4/2015

EXTREMIST TIP: Drop / Raise the pressure in your tires by 5 / 10 psi, and roll the bike up onto plywood or carpet, or put the bike up on front and rear stands.

REALITY: Get a carpet scrap or a hunk of MDP or plywood and roll your bike up onto it.

The other aspect of this is the fact that cold air shrinks, just like hot air expands. If you don't believe me, go blow up a balloon and stick it in the freezer. Your tires are just big rubber balloons. During the winter, the air in your garage (and in your tires) gets cold. The tire pressure drops and your tires start calling each other names like "flatly" and "soft boy". More surface area on the bottom of the tire collects more moisture.

There isn't much you can do about this, unless you want to install equipment to make your garage a temperature-controlled environment. And I have heard and read people's advice about increasing the pressure a little, or decreasing it a little, before letting the bike sit, and everyone has an opinion here. The bottom line is, keep them dry, and check the pressure during your weekly ritual. It only takes a minute.

Besides, which would you rather say: "I had to swap my tires because I was lame and didn't ride for six months and they got wet and flat" ... or "I had to swap my tires because I ride like a wicked sixth dimension demon and I like to light them up as often as possible." It's your choice, cub scout.

EXTREMIST MISCELLANEOUS TIPS: Change your fork oil. Lube your cables. Flush your radiator and put in fresh coolant/water mixture. Spray your bike with lemon-scented furniture polish. Spray rubber protectant on your fork seals. Polish exposed metal and chrome bits. Stuff a rag with some gas in your exhaust pipe, or wrap it with plastic. Wipe down leather and vinyl with cleaning products.

REALITY: Take care of your ride.

Use common sense. You should be changing your fork oil, replenishing your coolant and water, checking brake fluid, lubing cables, and all of that stuff regardless of what time of year it is. Most of these tips are just space fillers for authors with less verbal diarrhea than yours truly. But I recognize them for what they are: common sense.

Keep your bike looking good, and you will get to know it well. Buy the service manual from your local shop. Pay attention to the "little stuff". I'm not saying everyone should become a mechanic. If you don't want to learn to check and adjust valve clearances, that's fine. But give your ride a good wipe down on a regular basis. Look at all of those little containers of liquid and learn what the little lines all mean... which is usually "too much" or "too little", by the way, I'm pretty sure.

Some people recommend stuffing something in your exhaust pipe or sliding a bag over it to "keep critters out" during the winter months... listen, if some poor little rodent or bug crawls all the way up and into my canister (no wise cracks or Richard Gere jokes)... well, we all choose our own fate. And if you have rats crawling around in your garage... you might consider cleaning your garage. Just a thought. Closing statement: If you ride all year, good for you. If you ride twice a year, sell your bike. If you are like

Motorcycle Winterization

11/4/2015

Water + Metal = Rust = Corrosion sucks a mean old Richard. Let's all repeat that to ourselves. The "before and after" winter oil and filter swap is intended to coat and protect the innards with a thin coat of fresh engine juice. The half-a\$\$er does this the easy (and fun) way... by making sure that your bike doesn't sit silently for months at a time and keeping the oil fresh.

Just change your oil and filter as often as you usually do. Assuming you aren't a tightwad or wrench-o-phobe, you should be Jiffy Lubing every 3 to 5 thousand miles, or every 3 to 6 months, whichever comes first. During the winter, go by the calendar-age of the oil instead of the odometer-age. Running the engine degrades the oil, but so do air, moisture, and time.

Engine innards are like girls in bikinis: I am happier when they are covered in oil. No offense, ladies, just picture those guys in the 2013 Seattle Fire Department Calendar, it's all the same. The critical point is to keep coated in shiny goodness. Run the engine for 15 or 20 minutes at least once a week during the cold season, even if you aren't riding. This will effectively keep things lubed and protected. And be sure to get on the bike, pull in the clutch, and toe up and down through the gears to lube your transmission as well.

Pulling plugs and the rest of that knuckle-busting is all well and good if you are going to put the bike up for a few months, don't expect to ride, and are willing to spend a full weekend day both times to prep it for winter and prep it for spring. But if you want the option to ride, just run it. The engine is happier if you run it. It likes oil, gas, and air flowing through it, to keep away the bad, evil, naughty moisture monster. Make it happy.

EXTREMIST TIP: Disconnect your battery from the terminals. Top it off with distilled water (for maintenance-free models). Store it in a cool, dry place. Consider purchasing a "smart" trickle-charger.

REALITY: Leave it in the bike. Buy a Battery Tender. Trickle-charge it before your weekly ritual. Once a week.

Are you guys picking up on the trend, yet? Don't winterize it. Just don't let it get lonely. A few little things, a few times each month, and your bike will be ready to ride when you are.

Modern batteries slowly discharge, all by themselves, just sitting there, doing nothing. The lazy little bastards. When you are riding regularly, you are keeping your battery charged because your motorcycle comes from the factory with (voila!) a charging system.

If you aren't going to ride at all for 2 or 3 months, disconnect the battery and store it somewhere. But if you want to ride at a moment's notice, just peel open that tight little wallet and spring for a Battery Tender.

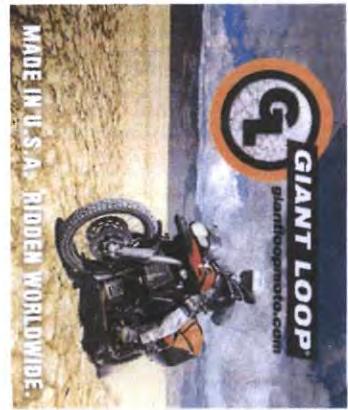
These "smart" trickle-chargers only push a current when it is needed. When the battery is fully charged, the system shuts down and monitors the level. Then it kicks back in as necessary. It's a lot like the thermostat in your house, only people don't fight over trickle-chargers.

So fuel, oil, battery... tie it all together and have a weekend ritual. Saturday night, pull the cover and connect the Battery Tender to the battery terminals. Don't forget to plug in the Battery Tender, as it functions more effectively. I have personal experience with this. Sunday morning, when your neighbors are sleeping in, disconnect the tender and get those exhaust pipe doggies barking. Move the gas and stabilizer through. Move the oil through. Coat the innards. Clean the pipes. Charge the bunny. Getting the common thread here?

Motorcycle Winterization

1/14/2015

Motorcycle Winterization



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Motorcycle Winterization

the rest of us, just use common sense and follow some of these general guidelines, give the engine what it wants (fresh oil, fresh fuel, and motion), and you can be a little wimpy during the winters.

I have personal experience here. SR!

by Christian Kuwasaki

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Motorcycle Winterization

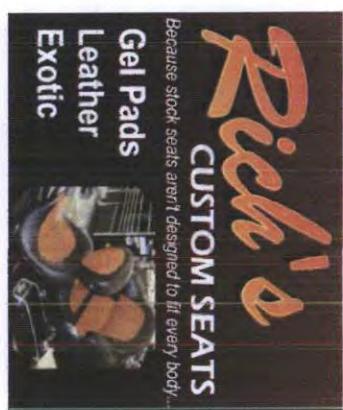


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Air Cooled vs. Liquid Cooled Motorcycle Engines

Posted by: YouMotorcycle in First Impressions, Reviews & Info, Versus December 18, 2010 10 Comments
37,731 Views

- Air cooled motorcycles run quieter.
- You'll tend to see them more on cruisers as most cruisers typically run at lower RPMs than sportbikes, which tend to be liquid cooled.
- Air cool provides more simplicity, representing one less thing which could break or need to be replaced.
- Liquid cooling radiators are sometimes fragile, and external or aftermarket oil-coolers can also be expensive and likely to break in a drop. Air cooled bikes may be cheaper.
- Air cooled is also likely more feasible for single cylinders (big thumpers) or parallel twin engines rather than V-Twins, where the back cylinder would remain hot.
- In liquid cooled engines, the circulating liquid evens-out hot spots in the cylinder head. This is better for detonation control and for emissions. The combustion chamber surfaces can be kept hot enough to encourage more complete combustion, but not so hot so as to promote detonation or high NOx emissions.
- Liquid cooling is better for long-term durability since it allows tighter build tolerances.
- Liquid cooled engines transfer the heat to the radiator at the front of the bike, making a long ride or a traffic grid lock more tolerable for the rider.

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Flake & Flames Interview with Jesper Bram

How would you feel about leaving your town to tour the world, making a crowd-funded documentary on kustom kulture? Three years after the hot rods, motorcycles, pinup models, and rockabilly music of Flake & Flames hit the web, we sat down to talk shop with Jesper. We've got his reflection on the documentary, his adventure, the impact on his life, what he's up to now, and his thoughts on a Flake & Flames: Part 2.



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What you'll want depends entirely on your ride. Sportbike or other high-revving engine, you may want to make sure you're getting something with liquid cooling. Scooter or cruiser can probably get away with air-cooling. Many people say Harley-Davidson Sportsters never overheat, but if they do get hot, there are always things you can do, such as switching to a full synthetic motorcycle oil, or adding an OEM or aftermarket oil cooler.

Check out Adri's air-cooled 2007 Harley-Davidson Sportster!



Have other questions?

You might also be interested in articles such as Disk Brakes vs. Drum Brakes, or Shaft Drive vs. Belt Drive vs. Chain Drive. Tap into our library of motorcycle knowledge here, or ask a question in the comments area below!

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10 COMMENTS



alan B'stard MP (@alanBStardmp)

September 9, 2013 at 12:04 pm

water cooling on a bike is nonsense. Aircooled bikes don't overheat

[Reply](#)



Jim

March 9, 2015 at 11:11 pm

I was sitting in traffic at Myrtle Beach. Couldn't move. I had to pull over and turn off the bike to cool (in 100 degrees no less). It was WAY over-revving. Then, I'd move a little, turn it off, move a little, turn it off.

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Eric Gumper
January 1, 2014 at 10:33 am

Hello,

Air cooled engines need much richer carburetion to cool them this means they pollute much more than liquid cooled engines. Liquid cooled engines can operate with carburetion set to burn all the fuel in the mixture. This chemical balance is called stoichiometric combustion where all the fuel is burned. Air cooled engines will never run with stoichiometric combustion because they would quickly overheat.

Water jackets in an engine act as sound insulators therefore liquid cooled engines are quieter than air cooled engines.

Its inevitable that governments will regulate motorcycle tailpipe emissions which will be the end of air cooled motorcycles.

Rgds
Eric

[Reply](#)



Geoff Smith
January 20, 2014 at 11:33 am

I am with Eric on this. Harley and those who have followed its lead have perfected the air cooled V-twin engine to the extent it can be. They are relatively clean and powerful, but a water cooled bike which allows tighter tolerances will pollute less and rev higher, producing more horsepower. The proof is riding on the road now. Look at the amazing power difference between Harley's lower displacement, water cooled V-Rod and their larger displacement cruisers.

I am riding my second Harley touring model and I love it, but I think by the time I get around to getting my next one it will be water cooled and it likely won't have push rods.

Jefe Smith

[Reply](#)



musictoone@yahoo.com
June 27, 2014 at 4:50 pm

I can't go back to air cooled. loved my yamahas but liquid cooling has been awesome in the las vegas desert. my vtx has a fan that comes on just like a car to keep cooling even if at a stop light. a few more parts? yes, but way worth it. if I didn't live in the desert? then air would be fine I think.

[Reply](#)



Lewis Frank
July 20, 2015 at 7:59 pm

Currently own Harley Road King(103) and it gets oppressively hot. I've had liquid cooled bikes and never had a problem with heat or cooling parts failure. I've got a friend with a 2014 Tri Glide(cooled heads) and they say it still gets very hot. Liquid cooled victory touring bike here I come!

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Exhibit B



Car Guy

Air-Cooled vs. Water-Cooled

Which bike is the more dependable ride?

By Eric Peters – 3.7.14

Most of us have a preference for one — or the other.

I own — and have owned — numerous examples of both types. There are pros — and cons — either way.

My '76 Kawasaki Kz900 is, of course, air-cooled. To be precise, it is air and oil-cooled — as all such bikes are. The engine castings are finned for a very functional reason: to help transfer — to radiate — heat away from the engine to the cooler surrounding air and so that airflow over the fins (and so on) can do the same thing. But oil is also used to keep the engine cool (as it does in water and oil-cooled bikes).

Because there is no other fluid to help keep things cool, the oil has to work harder in an engine sans water jackets, radiator and so on. It gets hotter — and thinner — faster. This is why many air/oil-cooled bikes have external oil coolers (mini-radiators, except for oil rather than anti-freeze) and — in some case — deep sump or additional capacity oiling systems.

If the engine is well-designed — and factory stock — and in good running order — usually, it will not overheat. However, if the engine was not well-designed, or if it's been modified to produce additional power — or it is not in good tune (running lean, for instance) it is more vulnerable to overheating and to heat-related damage.

I have modified my Kz900's engine to make more power. It has received a set of high-compression pistons and its displacement has been increased to 1015 CCs.

It makes more power now — but it also runs hotter. Quid pro quo, Clarice.

Here we come to one of the downsides of an air-oil cooled engine: Power production is limited (at least, as a practical matter) by the engine's ability to shed heat.

The Kz's plant is a DOHC four — the same basic layout used in many modern superbikes that have 180-plus hp and 180-plus MPH top speeds. But almost all of these engines are water-cooled. Because making that kind of power makes all kinds of heat — too much for air and oil alone to deal with. My bike's factory hp rating was 82. I've pushed that to around 120 or so. This approaches the limit of reasonableness for an air-cooled street motorcycle engine... if, that is, you'd like it to last. Drag bikes powered by the much-hopped-up versions of the old Zed big four make a lot more than 120 hp — but they only have to live for a few passes down the quarter-mile.

No idling in traffic when it's 95 degrees outside.

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